

Arlington High School Building Committee

Meeting Date: **Tuesday, August 18, 6:00 pm**
Location: **Conducted via Remote Participation**

Agenda

1. Cost Estimate Review
2. Value Engineering Discussion
3. Project Schedule Updates/Discussion
4. Subcommittee Reports
 - ◆ Communications
 - ◆ Finance
 - ◆ Interiors
 - ◆ Landscape & Exteriors
 - ◆ Memorials
 - ◆ SMEPFP
 - ◆ Security
 - ◆ Temp Use-Phasing
5. Approval of Minutes
 - ◆ Minutes of August 4, 2020
6. New Business

The listings of matters are those reasonably anticipated by the Chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law.

Members of the public are asked to send written comment to ktassone@arlington.k12.ma.us. Documents regarding agenda items will be made available via the Town's website.

<https://www.mass.gov/doc/open-meeting-law-order-march-12-2020/download>

Topic: AHSBC Meeting

Time: Aug 18, 2020 06:00 PM Eastern Time (US and Canada)

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COST ESTIMATE COMPARISON SPREADSHEET (UNIFORMAT)

Arlington High School New Construction

Division #	Description	Project Funding Agreement (PFA)		Design Development		60% CD		90% CD		PFA / 90% CD Comparison		
		Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	GSF	Total Cost	Unit Cost
A	Substructure	\$13,474,721	\$33	\$18,977,007	\$46	\$18,984,105	\$46	\$18,942,743	\$46	408,590	(\$5,468,022)	-\$13
B	Shell			\$0		\$0		\$0		408,590		\$0
B10	Superstructure	\$21,791,712	\$53	\$19,022,804	\$47	\$19,748,189	\$48	\$20,647,741	\$51	408,590	\$1,143,971	\$3
B20	Exterior Enclosure	\$21,017,633	\$51	\$17,231,183	\$42	\$19,022,994	\$47	\$18,274,602	\$45	408,590	\$2,743,031	\$7
	B2010 Exterior Walls		\$0	\$0		\$0		\$0		408,590		\$0
	B2020 Exterior Windows		\$0	\$0		\$0		\$0		408,590		\$0
	B2030 Exterior Doors		\$0	\$0		\$0		\$0		408,590		\$0
B30	Roofing	\$4,588,033	\$11	\$3,463,555	\$8	\$3,520,290	\$9	\$3,541,004	\$9	408,590	\$1,047,029	\$3
C	Interiors	\$30,023,786	\$73	\$30,403,764	\$74	\$34,416,308	\$84	\$32,197,400	\$79	408,590	(\$2,173,614)	-\$5
D	Services			\$0		\$0		\$0		408,590		\$0
D10	Conveying	\$615,000	\$2	\$724,500	\$2	\$724,500	\$2	\$724,500	\$2	408,590	(\$109,500)	\$0
D20	Plumbing	\$6,656,440	\$16	\$5,040,764	\$12	\$5,074,350	\$12	\$5,404,862	\$13	408,590	\$1,251,578	\$3
D30	HVAC	\$25,607,633	\$63	\$29,694,566	\$73	\$27,706,658	\$68	\$28,655,140	\$70	408,590	(\$3,047,507)	-\$7
D40	Fire Protection	\$2,042,950	\$5	\$2,871,272	\$7	\$2,773,033	\$7	\$2,769,818	\$7	408,590	(\$726,868)	-\$2
D50	Electrical	\$14,377,110	\$35	\$16,960,299	\$42	\$18,990,613	\$46	\$19,433,600	\$48	408,590	(\$5,056,490)	-\$12
E	Furnishings & Fixed Equipment	\$5,844,282	\$14	\$3,819,749	\$9	\$4,779,189	\$12	\$4,959,853	\$12	408,590	\$884,429	\$2
	Building Subtotal	\$146,039,300	\$357	\$148,209,463	\$363	\$155,740,229	\$381.17	\$155,551,263	\$380.70	408,590	-\$9,511,963	-\$23.28
F	Special Construction & Demo	\$7,414,100	\$18	\$9,715,375	\$24	\$6,960,559	\$17	\$10,682,273	\$26	408,590	(\$3,268,173)	-\$8
G	Other Site Construction		\$0	\$0		\$0		\$0		408,590		\$0
G10	Site Preparation	\$5,704,532	\$14	\$5,561,699	\$14	\$5,960,156	\$15	\$5,997,114	\$15	408,590	(\$292,582)	-\$1
G20	Site Improvements	\$8,712,200	\$21	\$8,016,247	\$20	\$8,809,874	\$22	\$9,111,743	\$22	408,590	(\$399,543)	-\$1
G30	Mechanical Utilities	\$1,548,710	\$4	\$6,126,592	\$15	\$3,366,036	\$8	\$3,537,453	\$9	408,590	(\$1,988,743)	-\$5
G40	Electrical Utilities	\$2,660,200	\$7	\$2,263,749	\$6	\$2,971,071	\$7	\$2,792,687	\$7	408,590	(\$132,487)	\$0
T	Toilet Building (Separated in DD only)			\$444,185								
	Subtotal	\$172,079,042	\$421	\$180,337,308	\$441	\$183,807,925	\$450	\$187,672,531	\$459	408,590	(\$359,751,573)	-\$880
Z	Mark-Ups	\$47,720,671	28%	\$43,462,837	24%	\$41,782,886	23%	\$38,398,010	20%	408,590	\$9,322,661	-\$3%
Z	GMP Insurance	\$2,214,657	1%	\$2,957,623	2%	\$2,588,155	1%	\$2,588,155	1%	408,590	-\$373,498	0%
Z	GC Bonds	\$1,509,994	1%	\$3,441,278	2%	\$3,420,947	2%	\$3,456,785	2%	408,590	-\$1,946,791	1%
Z	Design & Phasing Contingency	\$13,766,323	29%	\$9,028,780	21%	\$8,271,357	20%	\$4,649,006	12%	408,590	\$9,117,317	98%
Z	General Conditions & General Req.	\$18,493,299	11%	\$16,804,112	9%	\$16,804,112	9%	\$16,804,112	9%	408,590	\$1,689,187	0%
Z	GMP Contingency	\$6,706,513	4%	\$6,525,307	4%	\$5,992,578	3%	\$5,594,215	3%	408,590	\$1,112,298	0%
Z	Overhead & Profit	\$5,029,885	3%	\$4,705,737	3%	\$4,705,737	3%	\$4,705,737	3%	408,590	\$324,148	0%
	COVID GR Impacts (90% CD Only)							\$600,000	2%	408,590	\$600,000	6%
	Construction Subtotal	\$219,799,713	\$538	\$223,800,145	\$548	\$225,590,811	\$552	\$226,070,541	\$553	408,590	(\$6,270,828)	-\$15
Z	Escalation to Construction Mid-Point	\$15,487,114	9.0%	\$11,486,682	6.4%	\$9,662,427	5%	\$7,998,012	4%	408,590	\$7,489,102	-2%
Total Addition Cost		\$235,286,827		\$235,286,827		\$235,253,238		\$234,068,553		408,590	\$1,218,274	
\$/GSF		\$576		\$576		\$576		\$573			\$3	



	Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
A Substructure				
A10 Foundations				
A1010 Standard Foundations	408,500.00 gsf	16.35 /gsf	6,679,254	
A1020 Special Foundations	408,500.00 gsf	15.57 /gsf	6,359,839	
A1030 Lowest Floor Construction	408,500.00 gsf	14.45 /gsf	5,903,650	
A10 Foundations	408,500.00 gsf	46.37 /gsf	18,942,743	
A Substructure	408,500.00 gsf	46.37 /gsf	18,942,743	
B Shell				
B10 Superstructure				
B1010 Floor Construction	408,500.00 gsf	46.39 /gsf	18,948,477	
B1020 Roof Construction	408,500.00 gsf	4.16 /gsf	1,699,264	
B10 Superstructure	408,500.00 gsf	50.55 /gsf	20,647,741	
B20 Exterior Enclosure				
B2010 Exterior Walls	408,500.00 gsf	28.90 /gsf	11,804,407	
B2020 Exterior Windows	408,500.00 gsf	15.10 /gsf	6,168,995	
B2030 Exterior Doors	408,500.00 gsf	0.74 /gsf	301,200	
B20 Exterior Enclosure	408,500.00 gsf	44.74 /gsf	18,274,602	
B30 Roofing				
B3010 Roof Coverings	408,500.00 gsf	7.93 /gsf	3,240,185	
B3020 Roof Openings	408,500.00 gsf	0.74 /gsf	300,819	
B30 Roofing	408,500.00 gsf	8.67 /gsf	3,541,004	
B Shell	408,500.00 gsf	103.95 /gsf	42,463,347	
C Interiors				
C10 Interior Construction				
C1010 Partitions	408,500.00 gsf	27.75 /gsf	11,335,383	
C1020 Interior Doors	408,500.00 gsf	5.32 /gsf	2,171,830	
C1030 Specialties/Millwork	408,500.00 gsf	9.78 /gsf	3,994,303	
C10 Interior Construction	408,500.00 gsf	42.84 /gsf	17,501,515	
C20 Stairs				
C2010 Stair Construction	408,500.00 gsf	3.53 /gsf	1,441,844	



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
C2020 Stair Finishes	408,500.00 gsf	1.10 /gsf	450,320
C20 Stairs	408,500.00 gsf	4.63 /gsf	1,892,164
C30 Interior Finishes			
C3010 Wall Finishes	408,500.00 gsf	9.65 /gsf	3,942,731
C3020 Floor Finishes	408,500.00 gsf	8.83 /gsf	3,607,873
C3030 Ceiling Finishes	408,500.00 gsf	12.86 /gsf	5,253,116
C30 Interior Finishes	408,500.00 gsf	31.34 /gsf	12,803,720
C Interiors	408,500.00 gsf	78.82 /gsf	32,197,400
D Services			
D10 Conveying Systems			
D1010 Elevators & Lifts	408,500.00 gsf	1.77 /gsf	724,500
D10 Conveying Systems	408,500.00 gsf	1.77 /gsf	724,500
D20 Plumbing			
D20 Plumbing	408,500.00 gsf	12.94 /gsf	5,285,962
D2090 Plumbing EBP #2	408,500.00 gsf	0.29 /gsf	118,900
D20 Plumbing	408,500.00 gsf	13.23 /gsf	5,404,862
D30 Heating, Ventilating, and Air Conditioning (HVAC)			
D30 HVAC	408,500.00 gsf	70.15 /gsf	28,655,140
D30 Heating, Ventilating, and Air Conditioning (HVAC)	408,500.00 gsf	70.15 /gsf	28,655,140
D40 Fire Protection Systems			
D40 Fire Protection	408,500.00 gsf	6.47 /gsf	2,644,818
D4010 FP - Early Bid Package #2	408,500.00 gsf	0.31 /gsf	125,000
D40 Fire Protection Systems	408,500.00 gsf	6.78 /gsf	2,769,818
D50 Electrical Systems			
D50 Electrical	408,500.00 gsf	47.57 /gsf	19,433,600
D50 Electrical Systems	408,500.00 gsf	47.57 /gsf	19,433,600
D Services	408,500.00 gsf	139.51 /gsf	56,987,920
E Equipment & Furnishings			
E10 Equipment			



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90% CD Estimate
MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
E10 Equipment General	408,500.00 gsf	7.31 /gsf	2,987,461
E10 Equipment	408,500.00 gsf	7.31 /gsf	2,987,461
E20 Furnishings			
E2010 Fixed Furnishings	408,500.00 gsf	4.83 /gsf	1,972,392
E20 Furnishings	408,500.00 gsf	4.83 /gsf	1,972,392
E Equipment & Furnishings	408,500.00 gsf	12.14 /gsf	4,959,853
F Special Construction & Demolition			
F10 Special Construction			
F10 Temporary Construction		/gsf	2,945,910
F10 EB#3 Summer 2020 Swing Space EBP#3			845,288
F10 Special Construction		/gsf	3,791,198
F20 Existing Building Demolition			
F2010 Building Elements Demolition	408,500.00 gsf	7.41 /gsf	3,027,125
F20 Existing Building Demolition	408,500.00 gsf	7.41 /gsf	3,027,125
F23 Asbestos Containing Floor Material			
F2020 Hazardous Component Abatement	408,500.00 gsf	9.46 /gsf	3,863,950
F23 Asbestos Containing Floor Material	408,500.00 gsf	9.46 /gsf	3,863,950
F Special Construction & Demolition	408,500.00 gsf	26.15 /gsf	10,682,273
G Sitework			
G10 Site Preparation			
F10 Temporary Construction	408,500.00 gsf	0.45 /gsf	184,330
G10 Site Preperation	408,500.00 gsf	14.23 /gsf	5,812,784
G10 Site Preparation	408,500.00 gsf	14.68 /gsf	5,997,114
G20 Site Improvements			
G20 Site Improvements	408,500.00 gsf	22.31 /gsf	9,111,743
G20 Site Improvements	408,500.00 gsf	22.31 /gsf	9,111,743
G30 Site Civil/Mechanical Utilities			
G30 Civil Mechanical Utilities	408,500.00 gsf	2.90 /gsf	1,182,453



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Arlington High School

8/14/2020

90% CD Estimate
MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
G3005 Enabling Utilities	408,500.00	4.80	1,960,000
G3010 Water Supply	408,500.00 gsf	0.38 /gsf	155,000
G3020 Sanitary Sewer	408,500.00 gsf	0.14 /gsf	55,000
G3030 Storm Drainage	408,500.00 gsf	0.34 /gsf	140,000
G3040 Heating Distribution	408,500.00 gsf	0.11 /gsf	45,000
G30 Site Civil/Mechanical Utilities	408,500.00 gsf	8.66 /gsf	3,537,453
 G40 Site Electrical Utilities			
G40 Electrical Utilities	408,500.00 gsf	6.84 /gsf	2,792,687
G40 Site Electrical Utilities	408,500.00 gsf	6.84 /gsf	2,792,687
 G Sitework	408,500.00 gsf	52.48 /gsf	21,438,997



Estimate Totals

Description	Amount	Totals	Rate	Cost per Unit
Non-trade sub bonds	1,205,090		1.200 %	2.950 /SF
Subtotal	1,205,090	187,672,531		459.419 /SF
Phasing	650,000			1.591 /SF
Design/Estimate Contingency-Awarded Subs				
Design & Estimating Contingency - Other	3,999,006		2.500 %	9.789 /SF
Subtotal	4,649,006	188,877,621		462.369 /SF
Escalation - Awarded Subs				
Escalation - Other	7,998,012		5.000 %	19.579 /SF
Subtotal	7,998,012	201,524,639		493.328 /SF
General Conditions (C.1-3)	11,931,225			29.207 /SF
General Requirements (C.5-6)	4,872,887			11.929 /SF
Covid GR Impact Costs	600,000			1.469 /SF
P&P Bond	2,251,695			5.512 /SF
Builder's Risk (NIC)				
GL Insurance	2,588,155			6.336 /SF
Subtotal	22,243,962	223,768,601		547.781 /SF
Contractor's Contingency	5,594,215		2.500 %	13.695 /SF
Fee	4,705,737			11.520 /SF
Total		234,068,553		572.995 /SF



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
A Substructure			
A10 Foundations			
A1010 Standard Foundations			
033010 Concrete Adjustments			
Adjust to Sub Pricing (\$9,223,508)	1.00 ls	232,415.00 /ls	232,415
Credit for 100% of design contingency	(2.50) %	92,236.77 /%	(230,592)
Credit for escalation contingency	(5.00) %	92,236.76 /%	(461,184)
033010 Concrete Adjustments			(459,361)
033028 Concrete - Cont Ftgs			
Concrete Riggs ftgs, walls, grade beams	1.00 ls	1,900,000.00 /ls	1,900,000
Form/place/strip continuous footings - 26x12 - 45'	90.00 sfca	15.88 /sfca	1,429
Form/place/strip continuous footings - 36x12 - 147'	294.00 sfca	15.88 /sfca	4,668
Form/place/strip continuous footings - 48x12 - 70'	140.00 sfca	15.88 /sfca	2,223
Form/place/strip continuous footings - 36x12 - 147'	565.00 sfca	15.88 /sfca	8,971
Form/place/strip continuous footings - 48x12 - 70'	1,565.00 sfca	15.88 /sfca	24,849
Ready-mix - continuous footings (3000 psi)	15.79 cy	198.22 /cy	3,130
Placing concrete - cont footing	15.79 cy	133.46 /cy	2,107
033028 Concrete - Cont Ftgs	304.00 cy	6,405.85 /cy	1,947,378
033029 Concrete - Walls			
Form/place/strip fnd walls - 12"x 16.0' - 50'	1,550.00 sfca	22.50 /sfca	34,868
Form/place/strip fnd walls - 12"x 22.0' - 75'	3,350.00 sfca	22.50 /sfca	75,361
Rebar at walls (180#/cy)	8.55 ton	3,180.93 /ton	27,197
Placing concrete	95.00 cy	133.46 /cy	12,679
Ready-mix - walls (3000 psi) no waste	91.00 cy	198.22 /cy	18,038
Ready-mix - pilaster (3000 psi)	4.00 cy	198.22 /cy	793
033029 Concrete - Walls	738.00 cy	228.91 /cy	168,935
033030 Concrete - Spread Footings			
F7 Form/place/strip spread footings - 5 ea	308.00 sfca	21.18 /sfca	6,522
F10BR Form/place/strip spread footings - 1 ea	120.00 sfca	21.17 /sfca	2,541
F8 RI Form/place/strip spread footings - 1 ea	91.20 sfca	21.17 /sfca	1,931
Form/place/strip - elev pit footing - 9"x8" x 16" x2	90.71 sfca	21.17 /sfca	1,921
Ready-mix - column footings (3000 psi) no waste	33.95 cy	198.22 /cy	6,729
Placing concrete - column ftg	33.95 cy	133.46 /cy	4,531
033030 Concrete - Spread Footings	848.00 cy	28.51 /cy	24,175
033031 Concrete - Grade Beams - Int			
Form/place/strip grade beam - 24x 42" - Ph2&3 - 1,392	9,744.00 sfca	22.50 /sfca	219,198
Rebar at grade beam (75#/lf) - ph 2,3	60.53 ton	3,180.93 /ton	192,542
Placing concrete - ph 2,3	396.00 cy	133.46 /cy	52,849
Ready-mix - grade beam (3000 psi) no waste - ph 2,3	396.00 cy	198.22 /cy	78,494
033031 Concrete - Grade Beams - Int	396.00 cy	1,371.42 /cy	543,083
033032 Concrete - Grade Beams and Pilasters - Ext			
Form/place/strip ext grade beams- 12x6.0' - 205'	2,435.00 sfca	22.50 /sfca	54,777
Form/place/strip ext grade beams- 16x28.5' - 20'	1,105.00 sfca	22.50 /sfca	24,858
Form/place/strip ext grade beams - 18x6.6' - 65'	870.00 sfca	22.50 /sfca	19,571
Form/place/strip ext grade beams - 20x25.0' - 290'	14,515.00 sfca	22.50 /sfca	326,523
Form/place/strip ext grade beams - 24x4.5' - 1,250'	11,280.00 sfca	22.50 /sfca	253,756
Form/place/strip ext grade beams - 24x5.5' - 85'	900.00 sfca	22.50 /sfca	20,246
Form/place/strip ext grade beams - 24x6.5' - 75'	980.00 sfca	22.50 /sfca	22,046



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
033032 Concrete - Grade Beams and Pilasters - Ext			
Form/place/strip ext grade beams - 48x5.0' - 85'	850.00 sfca	22.50 /sfca	19,122
Add for pilasters - 24x24 (19/24' 60/3')	612.00 lf	59.56 /lf	36,450
Rebar at high wall (10#/sf at basement walls)	75.79 ton	3,180.93 /ton	241,076
Rebar at perimeter grade beam (90#/lf at frost locations)	80.52 ton	3,180.93 /ton	256,116
Rebar at pilasters (50#/lf)	17.73 ton	3,180.93 /ton	56,398
Placing concrete	1,185.00 cy	133.46 /cy	158,148
Ready-mix - grade beams (3000 psi) no waste	1,094.00 cy	198.22 /cy	216,848
Ready-mix - pilaster (3000 psi)	91.00 cy	198.22 /cy	18,038
033032 Concrete - Grade Beams and Pilasters - Ext	1,185.00 cy	1,454.83 /cy	1,723,973
033034 Concrete - Ph 2,3 Pile Caps			
Pile cap 1 - 75 ea	4,200.00 sfca	21.17 /sfca	88,932
Pile cap 2 - 120 ea	10,560.00 sfca	21.18 /sfca	223,603
Pile cap 3 - 44 ea	5,280.00 sfca	21.18 /sfca	111,802
Pile cap 3SP - 1 ea	136.00 sfca	21.17 /sfca	2,880
Pile cap 4 - 15 ea	1,920.00 sfca	21.17 /sfca	40,655
Pile cap 5 - 1 ea	147.00 sfca	21.17 /sfca	3,113
Pile cap 5SP - 3 ea	504.00 sfca	21.17 /sfca	10,672
Rebar per quote	90.00 ton	2,972.84 /ton	267,555
Redimix - Pile caps (3000 psi) no waste	1,173.00 cy	198.22 /cy	232,507
Placing concrete - pile cap	1,173.00 cy	133.46 /cy	156,546
033034 Concrete - Ph 2,3 Pile Caps	1,173.00 cy	970.39 /cy	1,138,265
033094 Concrete - Toilet Bldg			
Form/place/strip ext grade beams - 24" x 36'	120.00 lf	19.13 /lf	2,295
Rebar at grade beam (25#/lf)	1.50 ton	3,064.77 /ton	4,597
Ready-mix - grade beams (3000 psi)	26.67 cy	190.98 /cy	5,093
Concrete pumping - foundations	1.00 day	2,125.15 /day	2,125
033094 Concrete - Toilet Bldg		/gsf	14,111
070001 Waterproofing, Caulking			
Sheet waterproofing with drainage board at high walls only	12,176.00 sf	8.50 /sf	103,496
Sheet waterproofing with drainage board - add for footing	3,054.00 sf	8.50 /sf	25,959
070001 Waterproofing, Caulking	15,230.00 gsf	8.50 /gsf	129,455
071100 Bituminous Dampproofing			
Dampproofing at frost walls, no drainage bd	sf	/sf	
071100 Bituminous Dampproofing	20,024.00 gsf	/gsf	
072100 Thermal Insulation			
Rigid insulation at perimeter walls (2.0' at frost walls, 10.0' at basement walls)	9,000.00 sf	3.50 /sf	31,500
072100 Thermal Insulation	12,500.00 gsf	2.52 /gsf	31,500
312002 Earth Moving within Building Footprint			
Localized dewatering - ph 2-4	1.00 ls	140,000.00 /ls	140,000
Site Derenzo - Phase 1 building e/b	1.00 ls	960,000.00 /ls	960,000
E/b foundation walls/footings (F2.2C & F5.0C) - perimeter - ph 2-3	1,727.00 lf	46.15 /lf	79,692
Excavate/backfill foundation Grade Beams - ph 2-3	3,850.00 lf	46.15 /lf	177,658
Excavate for pile caps - ph 2,3	244.00 ea	247.50 /ea	60,390
312002 Earth Moving within Building Footprint	147,030.00 gsf	9.64 /gsf	1,417,741



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Arlington High School

8/14/2020

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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
A1010 Standard Foundations	408,500.00 gsf	16.35 /gsf	6,679,254
A1020 Special Foundations			
010200 Allowances			
Allowance for premiums due to existing piles	1.00 allw	100,000.00 /allw	100,000
010200 Allowances	408,500.00 gsf	0.25 /gsf	100,000
033087 Concrete Deadman for SOE			
Concrete Riggs Deadman	1.00 ls	300,000.00 /ls	300,000
033087 Concrete Deadman for SOE			300,000
033089 Concrete Wall at SOE			
Concrete wall - conc 4000# - 12"	101.11 cy	190.71 /cy	19,282
Concrete wall - sngl sided form - 195' x 14	2,730.00 sfsa	45.67 /sfsa	124,673
Concrete wall - rebar #6 x 4	15.00 tn	3,068.86 /tn	46,033
Concrete wall - place concrete	101.00 cy	132.62 /cy	13,395
033089 Concrete Wall at SOE	294.67 cy	690.20 /cy	203,382
071300 Fluid Applied Waterproofing (vapor membrane)			
6 mil reinforced poly	912.00 sf	0.60 /sf	547
071300 Fluid Applied Waterproofing (vapor membrane)	142,402.00 gsf	0.00 /gsf	547
312115 Sub-Slab Ventilation System			
Vapor Mitigation membrane - 40 dry mils covered with a G1000 protection fabric - ph 1	59,000.00 sf	4.15 /sf	244,850
Vapor Mitigation membrane - 40 dry mils covered with a G1000 protection fabric - ph 2 & 3	88,030.00 sf	4.15 /sf	365,325
Flat vent for vapor mitigation - phase 1	2,505.00 lf	20.00 /lf	50,100
Flat vent for vapor mitigation - ph 2 & 3	3,190.00 lf	20.00 /lf	63,800
312115 Sub-Slab Ventilation System	147,030.00 gsf	4.93 /gsf	724,075
315000 Temporary Excavation Support and Protection			
Site Derenzo ph 1 -SOE East/West of permanent SOE - 200' x 12'	4,800.00 sf	100.00 /sf	480,000
315000 Temporary Excavation Support and Protection	4,800.00 gsf	100.00 /gsf	480,000
316213 Pressure Injected Footings (PIFs)			
PIF - 120 ton at pile caps (74 +118x2 +46x3 +16x4 +4x5)	532.00 ea	3,678.26 /ea	1,956,834
<i>Mobilization - 3 rigs</i>	<i>0.00 ls</i>	<i>0.00 /ls</i>	<i>0</i>
<i>Load tests (1 static, 2 dynamic)</i>	<i>1.00 ls</i>	<i>/ls</i>	
316213 Pressure Injected Footings (PIFs)	502.00 gsf	3,898.08 /gsf	1,956,834
316600 Aggregate Piers & Rigid Inclusions			
Site Derenzo ph 1- Aggregat piers and rigid inclusions	58,000.00 sf	22.00 /sf	1,276,000
316600 Aggregate Piers & Rigid Inclusions	31,800.00 gsf	40.13 /gsf	1,276,000
316615 Helical Piles			
Heical piles at toilet Building - 10 ton	28.00 ea	2,800.00 /ea	78,400
Heical piles cut-offs at toilet Building	28.00 ea	200.00 /ea	5,600



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316615 Helical Piles		/gsf	84,000
316616 Permanent Soldier Pile Wall Site Derenzo ph 1 -Permanent soldier pile wall complete	5,500.00 sf	220.00 /sf	1,210,000
316616 Permanent Soldier Pile Wall	15,820.00 gsf	76.49 /gsf	1,210,000
323201 Big Block Segmental Retaining Wall Site Derenzo ph 1- Retaining Wall at Generator 120'x 5.0'	1.00 ls	25,000.00 /ls	25,000
323201 Big Block Segmental Retaining Wall		/gsf	25,000
A1020 Special Foundations	408,500.00 gsf	15.57 /gsf	6,359,839
A1030 Lowest Floor Construction			
033041 Concrete SOG - Non-structural Concrete Riggs slabs on grade	1.00 ls	580,000.00 /ls	580,000
033041 Concrete SOG - Non-structural	142,401.00 sf	4.07 /sf	580,000
033042 Concrete - Structural Slabs			
Form and set box outs	375.00 ea	275.74 /ea	103,402
Form slab perimeter - 24" dp - structural slab	4,080.00 sfca	22.50 /sfca	91,782
Allowance for slab depressions, eqp pds	1.00 ls	33,648.15 /ls	33,648
Slab depressions shown and edge form less than 12"	2,460.00 lf	22.06 /lf	54,266
Rebar (9.2 #/sf) - ph 2 & 3 (per Harris Rebar)	445.10 ton	3,180.93 /ton	1,415,831
WWM - topping slab	16,988.00 sf	0.55 /sf	9,369
Placing concrete - structural slabs	4,402.00 cy	59.56 /cy	262,182
Placing concrete - non-structural slab	1,033.00 cy	59.56 /cy	61,525
Ready-mix - slabs-on-grade (4000 psi) 9",10",12" no waste	3,034.00 cy	203.43 /cy	617,197
Add for perimeter haunch - 24" ilo of 12" x 24" x 2,040'	151.11 cy	203.43 /cy	30,740
Add for thickned slab at structural slab ph 2,3	1,217.00 cy	203.43 /cy	247,570
Place & finish slab-on-grade (6") - exterior	1,200.00 sf	2.65 /sf	3,176
Place & finish structural slab-on-grade (9")	2,890.00 sf	2.85 /sf	8,249
Place & finish structural slab-on-grade (10")	26,465.00 sf	2.91 /sf	76,910
Place & finish structural slab-on-grade (12")	61,707.00 sf	2.96 /sf	182,530
033042 Concrete - Structural Slabs	147,030.00 sf	21.75 /sf	3,198,377
033046 Concrete - Topping Slab at Radiant Heat Placing concrete - topping slab (SOG) ph 2,3	55.56 cy	59.56 /cy	3,309
033046 Concrete - Topping Slab at Radiant Heat	8,510.00 sf	0.39 /sf	3,309
033094 Concrete - Toilet Bldg			
Rebar #7 12" oct t & b (13.0#/sf)	5.20 tn	3,064.00 /tn	15,933
Ready-mix - slabs-on-grade (4000 psi) 12"+10%	29.63 cy	196.00 /cy	5,807
Ready-mix - slabs-on-grade add for haunch	8.85 cy	196.00 /cy	1,735
Place & finish slab-on-grade - toilet building	800.00 sf	3.30 /sf	2,639
Edge form - 16"	120.00 sf	21.25 /sf	2,550
033094 Concrete - Toilet Bldg		/gsf	28,664
070001 Waterproofing, Caulking Waterproofing for elevator pits	3.00 ls	4,950.00 /ls	14,850
070001 Waterproofing, Caulking		/gsf	14,850



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312001 Management and Disposition of Excavated Soils			
MCP Regulated Soil-Less Than RCS-1b(1,000x80%x1.6)	1,280.00 tns	24.00 /tns	30,720
MCP Regulated Soil-Type A Mass Unlined Landfill (2,000x80%x1.6)	2,560.00 tns	48.00 /tns	122,880
MCP Regulated Soil Type C Mass Asphalt Batching Facility (2,500x80%x1.6)	3,200.00 tns	53.00 /tns	169,600
MCP Regulated Soil-Type D Out of State Subtitle D (Non-Hazardous)(1,000x80%x1.6)	1,280.00 tns	88.00 /tns	112,640
Hazardous material (1,000x80%x1.6)	1,280.00 tns	335.00 /tns	428,800
312001 Management and Disposition of Excavated Soils		/gsf	864,640
312002 Earth Moving within Building Footprint			
Cut to fill subgrade within building footprint- Phase 2	1,345.00 cy	18.00 /cy	24,210
Fill from cut inside building footprint- Phase 2	1,345.00 cy	18.00 /cy	24,210
Fill to subgrade with offsite material inside building footprint- Phase 2	6,486.00 cy	38.00 /cy	246,468
Cut to fill subgrade within building footprint- Phase 3	1,684.00 cy	18.00 /cy	30,312
Fill from cut inside building footprint- Phase 3	1,684.00 cy	18.00 /cy	30,312
Fill to subgrade with offsite material inside building footprint- Phase 3	733.00 cy	40.00 /cy	29,320
3/4" Crushed stone below SOG (12") - ph 2,3	6,155.00 tn	28.00 /tn	172,340
3/4" Crushed stone below New Exterior & Interior Foundations (3") - ph 2,3	4,550.00 tn	28.00 /tn	127,400
Excavate for elevator pits - ph 2	2.00 ea	2,420.00 /ea	4,840
Fine grade under building - ph 2,3	83,422.00 sf	1.10 /sf	91,764
Filter fabric under slab - ph 2,3	83,402.00 sf	1.00 /sf	83,402
Excavate & Backfill for Under Slab Plumbing - ph 2,3	3,080.00 lf	18.00 /lf	55,440
Excavate & Backfill for Sub-Slab Ventilation System - flat vent - ph 2,3	3,132.00 lf	6.00 /lf	18,792
312002 Earth Moving within Building Footprint	142,401.00 gsf	6.59 /gsf	938,810
312600 Management and Disposition of Contaminated Material			
Site Derenzo ph 1- regulated soil disposal	1.00 ls	275,000.00 /ls	275,000
312600 Management and Disposition of Contaminated Material	14,400.00 gsf	19.10 /gsf	275,000
A1030 Lowest Floor Construction	408,500.00 gsf	14.45 /gsf	5,903,650
A10 Foundations	408,500.00 gsf	46.37 /gsf	18,942,743
A Substructure	408,500.00 gsf	46.37 /gsf	18,942,743
B Shell			
B10 Superstructure			
B1010 Floor Construction			
015020 Trade Support			
Staging at stairs	30.00 fl	2,750.00 /fl	82,500
015020 Trade Support		/gsf	82,500
033045 Concrete - SOD			
Concrete Riggs slabs on deck including floating floors	1.00 ls	720,000.00 /ls	720,000
Allowance for slab depressions, eqp pds no shown	1.00 ls	22,059.14 /ls	22,059
Slab depressions shown	835.00 lf	22.06 /lf	18,419
WWM material - floor SOMD (6x6 W2.9/W2.9)	196,100.00 sf	0.55 /sf	108,145
Ready-mix - slabs-on-deck - floor (4000 psi NW) (6.5")	3,934.11 cy	203.43 /cy	800,303



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
033045 Concrete - SOD			
Place & finish slab-on-deck (F6.5) - Floor	196,100.00 sf	3.03 /sf	594,797
Rebar at slab edge	21.00 tn	3,180.93 /tn	66,800
033045 Concrete - SOD	288,255.00 sf	8.09 /sf	2,330,523
033046 Concrete - Topping Slab at Radiant Heat			
Rigid insulation - radiant heat slab ph 2,3	4,500.00 sf	3.31 /sf	14,890
WWM (SOG) - ph 2,3	4,500.00 sf	0.31 /sf	1,401
Ready-mix - (4000 psi) 4" no waste - topping slab ph 2,3	55.56 cy	203.43 /cy	11,302
Place & finish topping slab at radiant heat - 5" ph 2,3	4,500.00 sf	3.03 /sf	13,649
033046 Concrete - Topping Slab at Radiant Heat	7,830.00 sf	5.27 /sf	41,243
051200 Structural Steel - Phase 1			
Structural steel - Trimax ph 1 (1,630 tons)	1.00 ls	7,260,500.00 /ls	7,260,500
051200 Structural Steel - Phase 1	2,801.00 sf	2,592.11 /sf	7,260,500
051210 Structural Steel - Phase 2 & 3			
Structural steel beams (12.50#/sf)	1,569.00 tn	3,325.00 /tn	5,216,925
Structural steel columns (3.61#/sf)	518.00 tn	3,325.00 /tn	1,722,350
Structural steel brace frames (0.94#/sf)	135.00 tn	3,325.00 /tn	448,875
Structural steel relieving angles	50.00 tn	4,200.00 /tn	210,000
<i>Laborer for trade support - Structural Steel ph 2,3</i>	wks	/wks	
Grating at catwalk - black box	670.00 sf	70.00 /sf	46,900
051210 Structural Steel - Phase 2 & 3		/sf	7,645,050
053100 Steel Decking			
Metal floor decking 2" (F6.5) 18ga - SOD	196,100.00 sf	3.10 /sf	607,910
Metal floor decking 2" (F5.5) 18ga - SOD	8,580.00 sf	3.82 /sf	32,761
053100 Steel Decking	270,366.00 sf	2.37 /sf	640,671
078100 Applied Fireproofing			
New steel beams and columns - floors	284,102.00 sf	2.55 /sf	724,460
078100 Applied Fireproofing	284,102.00 sf	2.55 /sf	724,460
078410 Firestopping			
Fire stopping - MEP penetrations	408,500.00 gsf	0.18 /gsf	73,530
078410 Firestopping	408,500.00 gsf	0.18 /gsf	73,530
079500 Expansion Control			
Expansion joint complete	1.00 ls	150,000.00 /ls	150,000
079500 Expansion Control		/gsf	150,000
B1010 Floor Construction	408,500.00 gsf	46.39 /gsf	18,948,477
B1020 Roof Construction			
033045 Concrete - SOD			
Concrete Riggs slabs on deck including floating floors	1.00 ls	270,000.00 /ls	270,000
WWM material - roof SOMD (6x6 W2.9/W2.9)	8,655.00 sf	0.55 /sf	4,773
Ready-mix - slabs-on-deck - roof (4000 psi NW) (5.5")	147.00 cy	203.43 /cy	29,904
Place & finish slab-on-deck (F5.5) - Roof	8,655.00 sf	3.03 /sf	26,252



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033045 Concrete - SOD			
Edge form	9,000.00 sf	12.46 /sf	112,093
033045 Concrete - SOD	28,647.00 sf	15.47 /sf	443,022
052100 Steel Joist Framing			
Long span joist - at gym (10.14#/sf)	161.00 tn	3,800.00 /tn	611,800
052100 Steel Joist Framing	165.00 tn	3,707.88 /tn	611,800
053100 Steel Decking			
Metal decking 1.5" (F1.5) 18ga - roof	46,740.00 sf	3.10 /sf	144,894
Acoustical metal roof decking 3.0" (F3.0) 18/20ga - roof	35,360.00 sf	7.20 /sf	254,592
053100 Steel Decking	147,162.00 sf	2.72 /sf	399,486
061753 Shop Fabricated Wood Trusses			
20" dp TJI with bracing at toilet building	800.00 sf	13.86 /sf	11,088
Plywd roof	800.00 sf	8.00 /sf	6,400
061753 Shop Fabricated Wood Trusses		/gsf	17,488
078100 Applied Fireproofing			
New steel beams and columns - roof	85,837.00 sf	2.65 /sf	227,468
078100 Applied Fireproofing	85,837.00 sf	2.65 /sf	227,468
B1020 Roof Construction	408,500.00 gsf	4.16 /gsf	1,699,264
B10 Superstructure	408,500.00 gsf	50.55 /gsf	20,647,741
B20 Exterior Enclosure			
B2010 Exterior Walls			
042000 Unit Masonry			
Multi trade staging at rear of phase 1 - 6 mo	30,000.00 sf	12.00 /sf	360,000
Exterior staging	99,327.00 sf	4.00 /sf	397,308
Brick veneer A, Endicott Clay Smooth/Artisan blend (\$9.87/sf) incl insulation & SS ties	61,000.00 sf	39.75 /sf	2,424,750
Brick veneer B, with accents at auditorium	4,211.00 sf	42.75 /sf	180,020
Brick veneer C, with 3/4" projected brick	7,265.00 sf	42.75 /sf	310,579
Brick - premium for soldier course accent	1,597.00 sf	1.50 /sf	2,396
Brick - premium for sloped brick at auditorium windows	230.00 sf	8.00 /sf	1,840
Decorative CMU - (Jandris or Westbrok) polished incl insul & ties	58,000.00 sf	28.50 /sf	1,653,000
Decorative CMU -type B rotated	632.00 sf	42.00 /sf	26,544
Decorative CMU -type C accent, and smaller	1,009.00 sf	34.00 /sf	34,306
Decorative CMU -premium for soldier course	994.00 sf	1.00 /sf	994
Decorative CMU - at loading dock	2,000.00 sf	28.50 /sf	57,000
Anti-grafiti coating	23,350.00 sf	6.00 /sf	140,100
Add for date stone	2.00 ls	1,000.00 /ls	2,000
Glazed Brick, Beldin veneer including insulation & SS ties	672.00 sf	48.00 /sf	32,256
Mock- up - masonry	1.00 ls	45,000.00 /ls	45,000
CMU backup 8" reinforced - 121' x 12' at toilet bldg	1,452.00 sf	23.50 /sf	34,122
Polished ground CMU veneer w/ insulation - 4" 121'x15' at toilet bldg	1,671.00 sf	31.00 /sf	51,801
勞工 for trade support - Masonry	20.00 wks	4,334.00 /wks	86,680
勞工 for trade support - Masonry	(20.00) wks	4,334.00 /wks	(86,680)



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042000 Unit Masonry	132,108.00 sf	43.56 /sf	5,754,016
055000 Metal Fabrications Loose lintels (base on sf of brick)	130,224.00 sf	0.50 /sf	65,112
055000 Metal Fabrications		/gsf	65,112
057500 Decorative Formed Metal (column covers) Exterior column covers - 24" diam x 16.0' North Canopy 8 ea Exterior column covers - 24" diam x 16.0' South Canopy 8 ea Exterior column covers - 24" x 14.0' diam east courtyard 3 ea	128.00 lf 128.00 lf 42.00 lf	350.00 /lf 350.00 /lf 350.00 /lf	44,800 44,800 14,700
057500 Decorative Formed Metal (column covers)		/lf	104,300
070001 Waterproofing, Caulking Mock-up - waterproofing sealing & caulking - exterior - masonry sealing & caulking - exterior - masonry toilet building Air/vapor barrier - perimeter of curtain-wall Air/vapor barrier - exterior walls - masonry Air/vapor barrier - exterior walls - exterior walls - mtl panel Air/vapor barrier - exterior walls - exterior soffits - DA Air/vapor barrier - exterior walls - masonry - toilet bldg	1.00 ls 132,108.00 sf 1,671.00 sf 10,222.00 lf 132,108.00 sf 13,724.00 sf 9,663.00 sf 1,671.00 sf	15,000.00 /ls 1.00 /sf 1.10 /sf 10.80 /lf 5.50 /sf 5.94 /sf 5.94 /sf 5.94 /sf	15,000 132,108 1,838 110,398 726,594 81,521 57,398 9,926
070001 Waterproofing, Caulking		/gsf	1,134,782
070002 Roofing & Flashing Thermoplastic roofing 60 mil - vertical at parapet 743' x 2'	2,580.00 sf	15.50 /sf	39,990
070002 Roofing & Flashing		/gsf	39,990
074200 Metal Wall Panels Mock-up - metal panels Metal panel siding - corrugated Metal panel siding - corrugated radius Metal panels at roof screens; acoustical incl purlins 291'x11' Metal panel at misc curtainwall perimeter areas	1.00 ls 11,616.00 sf 300.00 sf 3,201.00 sf 400.00 sf	20,000.00 /ls 62.00 /sf 70.00 /sf 72.00 /sf 72.00 /sf	20,000 720,192 21,000 230,472 28,800
074200 Metal Wall Panels	16,419.00 gsf	62.15 /gsf	1,020,464
074220 Specialized Column Cover (Tree) Custom fabricated "tree" FOB Custom painting and supervision Field installation Adjust to Blue Bird	1.00 ls 1.00 ls 1.00 ls (1.00) ls	54,500.00 /ls 6,500.00 /ls 15,000.00 /ls 36,000.00 /ls	54,500 6,500 15,000 (36,000)
074220 Specialized Column Cover (Tree)		/gsf	40,000
074249 Sintered Stone Wall Cladding Sintered stone cladding North Entry (flush with CW) Sintered stone cladding cornice/soffit - South entry Sintered stone cornice/soffit - frize beneath Sintered stone at projected bay windows	177.00 sf 1,544.00 sf 121.00 sf 173.00 sf	110.00 /sf 110.00 /sf 110.00 /sf 110.00 /sf	19,470 169,840 13,310 19,030
074249 Sintered Stone Wall Cladding			221,650
090007 Painting Anti-graffiti coating to 12' hic Paint exposed lintel/relieving angle	1,500.00 sf 1,000.00 lf	4.00 /sf 60.00 /lf	6,000 60,000



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		/gsf	
090007 Painting			66,000
092900 Gypsum Board Assemblies			
Mock-up - lgmf	1.00 ls	15,000.00 /ls	15,000
Interior gypsum at exterior walls	151,394.00 sf	3.10 /sf	469,321
LGF and sheathing at exterior walls - masonry	136,398.00 sf	14.50 /sf	1,977,770
LGF and sheathing at exterior walls - siding	17,517.00 sf	14.50 /sf	253,996
LGF and sheathing at exterior soffits - DAFS (prev 9,663sf)	9,770.00 sf	14.50 /sf	141,665
Engineering	1.00 ls	50,000.00 /ls	50,000
092900 Gypsum Board Assemblies	161,057.00 sf	18.05 /sf	2,907,753
092910 Direct Applied Finish System (DAFS)			
DAFS	9,770.00 sf	42.00 /sf	410,340
092910 Direct Applied Finish System (DAFS)	9,770.00 sf	42.00 /sf	410,340
101400 Signage			
Allowance for exterior building signage	1.00 ls	40,000.00 /ls	40,000
101400 Signage			40,000
B2010 Exterior Walls	408,500.00 gsf	28.90 /gsf	11,804,407
B2020 Exterior Windows			
061000 Rough Carpentry			
Window blocking - aluminum windows	7,274.00 lf	8.66 /lf	63,011
Window blocking - curtain wall	10,294.00 lf	8.66 /lf	89,172
Window blocking - curtain wall; interior	350.00 lf	8.66 /lf	3,032
061000 Rough Carpentry	20,510.00 gsf	7.57 /gsf	155,215
070001 Waterproofing, Caulking			
sealing & caulking - exterior - perimeter AW	6,304.00 lf	10.00 /lf	63,040
sealing & caulking - exterior - perimeter CW	11,017.00 lf	10.00 /lf	110,170
070001 Waterproofing, Caulking			173,210
084410 Glazed Aluminum Curtainwall (window TB)			
Mock-up - curtainwall	1.00 ls	45,000.00 /ls	45,000
Silicone sealant and extrusion at perimeter of CW	11,017.00 lf	20.00 /lf	220,340
Premium for custom extrusion profile	2,750.00 lf	40.00 /lf	110,000
Curtain-wall	37,791.00 sf	110.00 /sf	4,157,010
Premium Bump out windows at Pre-K area - Curtain-wall (CW 20x10)	449.00 sf	40.00 /sf	17,960
Premium for North Facing (includes SHGC premium)	14,392.00 sf	6.00 /sf	86,352
Add for security glazing where shown	2,800.00 sf	40.00 /sf	112,000
Curtain-wall add for operable sash	3,506.00 sf	60.00 /sf	210,360
Curtainwall canopy	2.00 ls	10,000.00 /ls	20,000
Laborer for trade support - Curtain-wall	43.00 wks	4,334.00 /wks	186,362
Laborer for trade support - Curtain-wall	(43.00) wks	4,334.00 /wks	(186,362)
084410 Glazed Aluminum Curtainwall (window TB)	37,848.00 sf	131.55 /sf	4,979,022
084523 Fiberglass Panels (window TB)			
Kalwall window system FP1, FP2	877.00 sf	80.00 /sf	70,160
084523 Fiberglass Panels (window TB)			70,160



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085110 Aluminum Windows (window TB)			
Aluminum windows - standard	7,702.00 sf	93.00 /sf	716,286
Add for - North facing - SHGC glass	3,356.00 sf	4.50 /sf	15,102
085110 Aluminum Windows (window TB)	8,106.00 sf	90.23 /sf	731,388
089000 Louvers & Vents (window TB)			
Louvers at exterior	600.00 sf	100.00 /sf	60,000
089000 Louvers & Vents (window TB)	380.00 gsf	157.90 /gsf	60,000
B2020 Exterior Windows	408,500.00 gsf	15.10 /gsf	6,168,995
B2030 Exterior Doors			
083300 Overhead Coiling Doors			
Coiling door at toilet building - 8' w	1.00 ea	5,000.00 /ea	5,000
083300 Overhead Coiling Doors			
083330 Exterior OH Coiling Door			
Insulated coiling door EX227 Mizer/Wood	120.00 sf	60.00 /sf	7,200
Add for operator	1.00 ls	1,500.00 /ls	1,500
083330 Exterior OH Coiling Door	1.00 ea	8,700.00 /ea	8,700
084410 Glazed Aluminum Curtainwall (window TB)			
Aluminum (ext) doors complete	55.00 lvs	4,500.00 /lvs	247,500
FRP doors in alum frames	8.00 lvs	2,500.00 /lvs	20,000
Handicap operators Hrdw set 67(3), 68(1), 69(1) ext	5.00 lvs	4,000.00 /lvs	20,000
084410 Glazed Aluminum Curtainwall (window TB)	48.00 sf	5,989.58 /sf	287,500
B2030 Exterior Doors	408,500.00 gsf	0.74 /gsf	301,200
B20 Exterior Enclosure	408,500.00 gsf	44.74 /gsf	18,274,602
B30 Roofing			
B3010 Roof Coverings			
055000 Metal Fabrications			
Roof ladders (2.5',3.0',6.0',13.0',14.0',15.5',17.0')	71.00 vlf	900.00 /vlf	63,900
055000 Metal Fabrications			
061000 Rough Carpentry			
Roof blocking - edge condition - rev to 7 pc/lf (7/A6.1)	5,105.00 lf	44.00 /lf	224,620
Roof blocking - misc based on roof sf	153,059.00 sf	0.75 /sf	114,794
Roof blocking - at skylights - straight	1,406.00 lf	36.00 /lf	50,616
Roof blocking - at skylights - radius	575.00 lf	60.00 /lf	34,500
061000 Rough Carpentry	150,740.00 gsf	2.82 /gsf	424,530
070002 Roofing & Flashing			
Mock-up -roof	1.00 ls	10,000.00 /ls	10,000
Metal fascia at canopies	1,051.00 lf	45.00 /lf	47,295



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
070002 Roofing & Flashing			
Thermoplastic roofing, min R40 R1A (flat)	75,283.00 sf	13.45 /sf	1,012,556
Thermoplastic roofing, min R40 R1B, 1B1 (tapered)	55,116.00 sf	15.00 /sf	826,740
Thermoplastic roofing, min R40 R1C (tapered)	13,259.00 sf	15.00 /sf	198,885
Thermoplastic roofing, min R40 R1D (canopies)	1,869.00 sf	18.00 /sf	33,642
Thermoplastic roofing, min R40 R1E,F (Green Roof)	9,213.00 sf	22.00 /sf	202,686
R1G Roofing at tilt building	750.00 sf	15.00 /sf	11,250
Pavers with landscaping	1.00 ls	0.01 /ls	0
Parapet roof edge (7/A6.2)	860.00 lf	54.00 /lf	46,440
Roof edge without tapper	3,233.00 lf	52.00 /lf	168,116
Flashing at stair towers	400.00 lf	31.50 /lf	12,600
Flashing at green roof	312.00 lf	31.50 /lf	9,828
Flashing at canopies	371.00 lf	31.50 /lf	11,687
Add for overflow scuppers	25.00 ea	360.00 /ea	9,000
Flashing at roof curbs - US 1-5 skylights	1,406.00 lf	36.00 /lf	50,616
Flashing at roof curbs - US 6-8 skylights	575.00 lf	36.00 /lf	20,700
070002 Roofing & Flashing	154,740.00 gsf	17.27 /gsf	2,672,041
110140 Tieback and Lifeline Anchors			
Tie off davits, no cable, bolted to structural steel with isolation pad	62.00 ea	1,285.71 /ea	79,714
110140 Tieback and Lifeline Anchors		/gsf	79,714
B3010 Roof Coverings	408,500.00 gsf	7.93 /gsf	3,240,185
B3020 Roof Openings			
077200 Roof Accessories (roofing TB)			
Smoke hatches above stage 5.5'x12' acoustically rated	2.00 ea	12,000.00 /ea	24,000
Elevator vent	3.00 ea	1,800.00 /ea	5,400
077200 Roof Accessories (roofing TB)		/gsf	29,400
086200 Unit Skylights (roofing TB)			
US 1 - Prefabricated unit skylights - 7' 4" x 5'-0"	5.00 ea	3,032.00 /ea	15,160
US 2 - Prefabricated unit skylights at gym - 4' 10" x 4' 10"	48.00 ea	1,989.56 /ea	95,499
US 3 - Prefabricated unit skylights - 4' 2" x 4' 2"	6.00 ea	1,511.20 /ea	9,067
US 4 - Prefabricated unit skylights - 3' 4" x 3' 4"	1.00 ea	987.11 /ea	987
US 4A - Prefabricated unit skylights - 3' 4" x 3' 4"	8.00 ea	987.00 /ea	7,896
US 5 - Prefabricated unit skylights - 2' 1" x 2' x 1"	1.00 ea	760.00 /ea	760
US 6 - Prefabricated unit skylights - D = 8'	2.00 ea	6,696.00 /ea	13,392
US 7 - Prefabricated unit skylights - D = 5'	4.00 ea	2,422.00 /ea	9,688
US 8 - Prefabricated unit skylights 4' 2" x 2' 9"	6.00 ea	1,024.00 /ea	6,144
US 8A - Prefabricated unit skylights 4' 2" x 2' 9"	4.00 ea	1,024.00 /ea	4,096
086200 Unit Skylights (roofing TB)	116.00 ea	1,402.49 /ea	162,689
086300 Modular Skylights (window TB)			
MS1 Metal framed skylights - 118' x 3'-4"	394.00 sf	140.00 /sf	55,160
MS2 Metal framed skylights - 17' x 8' 6" x 2	289.00 sf	130.00 /sf	37,570
086300 Modular Skylights (window TB)	2,084.00 sf	44.50 /sf	92,730
122400 Window Shades			
US 8A - 4'-0" x 2'-9" - integral shade power operated	4.00 ea	1,750.00 /ea	7,000
US 1 - 7' 4" x 5'-0" integral shade power operated	3.00 ea	3,000.00 /ea	9,000



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate
MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
122400 Window Shades	54.00 gsf	296.30 /gsf	16,000
B3020 Roof Openings	408,500.00 gsf	0.74 /gsf	300,819
B30 Roofing	408,500.00 gsf	8.67 /gsf	3,541,004
B Shell	408,500.00 gsf	103.95 /gsf	42,463,347
C Interiors			
C10 Interior Construction			
C1010 Partitions			
015020 Trade Support			
Hoisting	60.00 mo	5,000.00 /mo	<u>300,000</u>
015020 Trade Support		/gsf	300,000
042000 Unit Masonry			
CMU partition - interior - elevator shafts	12,340.00 sf	32.00 /sf	394,880
CMU partition - interior at locker area - 16A - 960' x 12'-8"	12,158.00 sf	24.00 /sf	291,792
CMU partition - interior at locker area - 16B - 213' x 12'-8"	2,697.00 sf	24.00 /sf	64,728
CMU partition - interior at locker area - 16C	340.00 sf	24.00 /sf	8,160
Install HM frame	30.00 ea	197.31 /ea	5,919
CMU partition type 16 A - interior 84' x 12'h toilet bldg	1,010.00 sf	24.00 /sf	24,240
CMU partition type 16 B - interior 16' x 12'h toilet bldg	700.00 sf	24.00 /sf	16,800
Install HM frame at toilet bldg toilet bldg	4.00 ea	197.31 /ea	<u>789</u>
042000 Unit Masonry		/sf	807,309
055000 Metal Fabrications			
Seismic clips - 4'oc each side - interior	456.00 ea	66.00 /ea	<u>30,096</u>
055000 Metal Fabrications		/gsf	30,096
061000 Rough Carpentry			
Additional wood blocking - building interior	408,500.00 gsf	0.62 /gsf	253,270
Wood base lgm at lockers	1,300.00 lf	69.30 /lf	<u>90,090</u>
061000 Rough Carpentry		/gsf	343,360
080007 Glazing			
Single glazed borrowed light	6,772.00 sf	55.00 /sf	372,460
Double glazed borrowed light	1,943.00 sf	110.00 /sf	213,730
Glass at D-lab, sngl glazed	142.19 sf	55.00 /sf	7,820
applied film on glass	245.00 ea	200.00 /ea	49,000
# of lights	637.00 ea	0.00 /ea	1
Anti-reflective glass at auditorium	28.00 sf	150.00 /sf	<u>4,200</u>
080007 Glazing		/gsf	647,211
084410 Glazed Aluminum Curtainwall (window TB)			
Interior Curtain-wall (ICW)	1,386.00 sf	110.00 /sf	152,460
Interior Curtain-wall (CW 48B vestibule)	809.00 sf	110.00 /sf	<u>88,990</u>
084410 Glazed Aluminum Curtainwall (window TB)	3,708.50 sf	65.11 /sf	241,450



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
092900 Gypsum Board Assemblies			
Ceiling assembly at vestibule complete	430.00 sf	90.00 /sf	38,700
Premium for MR board at wall tile	65,185.00 sf	0.10 /sf	6,519
Premium for high impact at stairs	20,000.00 sf	0.95 /sf	19,000
Gyp board at stairs walls	995.00 sf	6.00 /sf	5,970
Gyp board at stair soffit	120.00 sf	6.00 /sf	720
Gyp partition type 1A - stud + gyp (1+1+ insul)	71,486.00 sf	12.35 /sf	882,852
Gyp partition type 1B - stud + gyp (1+1+ insul)	768.00 sf	12.35 /sf	9,485
Gyp partition type 1C - stud + gyp (1+1+ insul)	570.00 sf	12.35 /sf	7,040
Gyp partition type 2A - stud + gyp (2+1+ insul)	166,781.00 sf	15.44 /sf	2,574,682
Gyp partition type 2B - stud + gyp (2+1+ insul)	469.00 sf	15.44 /sf	7,241
Gyp partition type 2C - stud + gyp (2+1+ insul)	23,805.00 sf	15.44 /sf	367,490
Gyp partition type 3A - stud + gyp (2+2+ insul)	65,339.00 sf	18.53 /sf	1,210,405
Gyp partition type 3C - stud + gyp (2+2+ insul)	2,285.00 sf	18.53 /sf	42,330
Gyp partition type 4A - stud + gyp (1+ insul)	4,244.00 sf	8.31 /sf	35,278
Gyp partition type 5A - stud + gyp (1+1+ insul)	10,204.00 sf	12.35 /sf	126,019
Gyp partition type 5B - stud + gyp (1+1+ insul)	160.00 sf	12.35 /sf	1,976
Gyp partition type 6A - stud + gyp (1+ insul)	23,728.00 sf	8.31 /sf	197,239
Gyp partition type 6B - stud + gyp (1+ insul)	10,036.00 sf	8.31 /sf	83,399
Gyp partition type 7A - stud + gyp (2+ insul)	115,881.00 sf	11.40 /sf	1,321,043
Gyp partition type 7B - stud + gyp (2+ insul)	12,688.00 sf	11.40 /sf	144,643
Gyp partition type 7C - stud + gyp (2+ insul)	524.00 sf	11.40 /sf	5,974
Gyp partition type 8A - stud + gyp (1)	30,590.00 sf	8.31 /sf	254,203
Gyp partition type 8B - stud + gyp (1) at column surrounds	79,606.00 sf	9.50 /sf	756,257
Gyp partition type 10A shaftwall 2 hr	15,835.00 sf	18.05 /sf	285,822
Gyp partition type 12A - staggered dbl ms + gyp (2+2+ insul)	1,354.00 sf	24.23 /sf	32,801
Gyp partition type 12B - staggered dbl ms + gyp (2+2+ insul)	18,945.00 sf	24.23 /sf	458,943
Gyp partition type 14A - low wall - stud + gyp (1+1+ insul)	1,443.00 sf	24.23 /sf	34,957
Gyp partition type 14B - low wall - stud + gyp (1+1+ insul)	263.00 sf	24.23 /sf	6,371
092900 Gypsum Board Assemblies	408,500.00 sf	21.83 /sf	8,917,357
102220 Operable Partitions			
Operable partition at Sped conf 232	12.00 lf	750.00 /lf	9,000
Operable partition classroom 414,415	30.00 lf	660.00 /lf	19,800
Operable partition classroom 429/430	30.00 lf	660.00 /lf	19,800
102220 Operable Partitions	217.00 lf	223.96 /lf	48,600
C1010 Partitions	408,500.00 gsf	27.75 /gsf	11,335,383
C1020 Interior Doors			
080007 Glazing			
Non-rated glass in wd door - type B - 18" x 65"	40.00 ea	325.00 /ea	13,000
Non-rated glass in wd door - type E - 9" x 65"	167.00 ea	250.00 /ea	41,750
Non-rated glass in wd door - type F - 9" x 32"	118.00 ea	175.00 /ea	20,650
Non-rated glass in wd door - type H - 6" x 26"	19.00 ea	150.00 /ea	2,850
Non-rated glass in wd door - type H - 12" x 31"	19.00 ea	225.00 /ea	4,275
Rated glass in wood door type D 3"x30"	41.00 ea	300.00 /ea	12,300
080007 Glazing		/gsf	94,825
081110 Hollow Metal Frames			
HM doors - interior at toilet building	4.00 lvs	250.00 /lvs	1,000
HM frames - single (3' x 7') at toilet building	4.00 ea	250.00 /ea	1,000
HM frames - type 1, single	563.00 ea	362.00 /ea	203,806
HM frames - type 2, double	89.00 ea	410.00 /ea	36,490



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
081110 Hollow Metal Frames			
HM frames - type 3, single	32.00 ea	362.00 /ea	11,584
HM frame - type 4	27.00 ea	362.00 /ea	9,774
081110 Hollow Metal Frames	711.00 gsf	370.82 /gsf	263,654
081400 Flush Wood Doors			
Wood doors - A flush	417.00 lvs	365.00 /lvs	152,205
Wood doors - B two lights	40.00 lvs	425.00 /lvs	17,000
Wood doors - D single light	41.00 lvs	392.00 /lvs	16,072
Wood doors - E single light	167.00 lvs	392.00 /lvs	65,464
Wood doors - F single light	118.00 lvs	392.00 /lvs	46,256
Wood doors - H two lights	19.00 lvs	480.00 /lvs	9,120
add for STC30	146.00 lvs	40.00 /lvs	5,840
add for STC40	18.00 lvs	250.00 /lvs	4,500
add for 90 minute FR	77.00 lvs	125.00 /lvs	9,625
081400 Flush Wood Doors	802.00 lvs	406.59 /lvs	326,082
083100 Access Doors and Panels			
Access doors & frames	1.00 ls	25,000.00 /ls	25,000
083100 Access Doors and Panels		/gsf	25,000
083300 Overhead Coiling Doors			
Manual coiling door at theater control room 2/A12.7.2	1.00 ea	3,900.00 /ea	3,900
Overhead coiling door - 7'x10' at stage vestibule 236	1.00 ea	4,522.00 /ea	4,522
083300 Overhead Coiling Doors	4.00 ea	2,105.50 /ea	8,422
083320 Overhead Coiling Grilles			
OH027A - 5'-5"	6.00 lf	900.00 /lf	5,400
OH231A - 5'-0"	5.00 lf	900.00 /lf	4,500
OH334B - 7'-5"	8.00 lf	900.00 /lf	7,200
083320 Overhead Coiling Grilles	556.00 ea	30.76 /ea	17,100
083336 Side Coiling Grilles			
Side coiling grille at servery	62.00 lf	1,050.00 /lf	65,100
083336 Side Coiling Grilles		/gsf	65,100
083510 Horizontal-Sliding Accordion Door			
Horizontal fire door at level 2 star 2	28.00 lf	1,400.00 /lf	39,200
083510 Horizontal-Sliding Accordion Door		/ea	39,200
083513 Folding Doors			
Interior glass folding door (Nana Wall)- 24'x10' at library L3 346.2	1.00 ea	45,600.00 /ea	45,600
Interior glass folding door 235 - 6' long x 4'-2" h	1.00 ea	8,000.00 /ea	8,000
083513 Folding Doors	700.00 gsf	76.57 /gsf	53,600
084410 Glazed Aluminum Curtainwall (window TB)			
Aluminum (int) doors complete	29.00 lvs	4,500.00 /lvs	130,500
Handicap operators Hrdw set 59(3), 60(1) int	4.00 lvs	4,000.00 /lvs	16,000
084410 Glazed Aluminum Curtainwall (window TB)		/sf	146,500
087010 Install Doors and Hardware			



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
087010 Install Doors and Hardware			
Install door & hardware - interior	802.00 lvs	491.00 /lvs	393,782
Hardware - 24 VDC power supply for mortise lock	82.00 ea	0.00 /ea	0
Hardware - 2-ball bearing hinge	1,920.00 ea	0.00 /ea	2
Hardware - 4-ball bearing hinge	371.00 ea	0.00 /ea	0
Hardware - acoustic automatic door bottom seal	51.00 ea	0.00 /ea	0
Hardware - acoustic automatic door bottoms	16.00 ea	0.00 /ea	0
Hardware - acoustic meeting stile gasketing	29.00 ea	0.00 /ea	0
Hardware - auto drop door bottom	108.00 ea	0.00 /ea	0
Hardware - automatic door operator	2.00 ea	0.01 /ea	0
Hardware - classroom function deadbolt	16.00 ea	0.00 /ea	0
Hardware - cylinder core housing	750.00 ea	0.00 /ea	1
Hardware - door closer	267.00 ea	0.00 /ea	0
Hardware - door closer w mech HO	16.00 ea	0.00 /ea	0
Hardware - door kick plates	677.00 ea	0.00 /ea	1
Hardware - door protection plaets	254.00 ea	0.00 /ea	0
Hardware - door stop	791.00 ea	0.00 /ea	1
Hardware - electric & RQE mortise lock	7.00 ea	0.00 /ea	0
Hardware - electric dogging & RQE device w trim	4.00 ea	0.01 /ea	0
Hardware - electric latch retract & RQE device w trim	61.00 ea	0.00 /ea	0
Hardware - flushmount auto door bottom	153.00 ea	0.00 /ea	0
Hardware - frame silencers	2,029.00 ea	0.00 /ea	2
Hardware - LBR device w elec trim & RQE	28.00 ea	0.00 /ea	0
Hardware - LBR devise w mech trim & RQE	28.00 ea	0.00 /ea	0
Hardware - magnetic door hold-opens	56.00 ea	0.00 /ea	0
Hardware - mortise lockset	402.00 ea	0.00 /ea	0
Hardware - mortise lockset w "occupied" indication	41.00 ea	0.00 /ea	0
Hardware - mortise lockset w security function	150.00 ea	0.00 /ea	0
Hardware - perimeter acoustic gasketing	155.00 ea	0.00 /ea	0
Hardware - pushpad actuators	4.00 ea	0.01 /ea	0
Hardware - RIM device w mech trim & CD	11.00 ea	0.00 /ea	0
Hardware - RQE exist bearing device w trim	36.00 ea	0.00 /ea	0
Hardware - set-in & ext hinge fingershields	30.00 ea	0.00 /ea	0
Hardware - set-perimeter gasketing	152.00 ea	0.00 /ea	0
Hardware - set-top & bottom manual flushbolts	31.00 ea	0.00 /ea	0
Hardware - single sided cylinder deadbolt	128.00 ea	0.00 /ea	0
Hardware - small format cylinder core	972.00 ea	0.00 /ea	1
Hardware - SVR device w mech trim & CD	4.00 ea	0.01 /ea	0
Hardware - thru-wire electric hinge	128.00 ea	0.00 /ea	0
Install door & hardware - toilet bldg	4.00 lvs	491.01 /lvs	1,964
087010 Install Doors and Hardware			395,756
087100 Door Hardware			
Furnish hardware	802.00 lvs	681.00 /lvs	546,162
Hardware sets - interior (HM & Wood doors) - toilet building	4.00 lvs	681.01 /lvs	2,724
087100 Door Hardware			548,886
090007 Painting			
Paint HM frame - interior	711.00 lvs	175.00 /lvs	124,425
Paint HM doors - interior at toilet building	4.00 lvs	95.00 /lvs	380
Paint HM frames - at toilet building	4.00 ea	105.00 /ea	420
090007 Painting			125,225
092900 Gypsum Board Assemblies			
Install HM Frame	781.00 op	80.00 /op	62,480



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
092900 Gypsum Board Assemblies		/sf	62,480
C1020 Interior Doors	408,500.00 gsf	5.32 /gsf	2,171,830
C1030 Specialties/Millwork			
055000 Metal Fabrications			
Auditorium railing at front of balcony, SS short	0.00 lf	0.00 /lf	0
Auditorium railing at bottom balcony aisle	8.00 lf	300.00 /lf	2,400
Auditorium railing floor mtd at balcony - side steps only	22.00 lf	300.00 /lf	6,600
<i>Auditorium floor mtd aisle railings balcony(24 loc)</i>	<i>0.00 lf</i>	<i>0.00 /lf</i>	<i>0</i>
Auditorium railing on top of short wall lower level , SS short, radius (6/A8.75)	81.00 lf	375.00 /lf	30,375
Auditorium railing at top of short wall lower level, SS floor mtd hndcp	38.00 lf	300.00 /lf	11,400
<i>Auditorium floor mtd aisle railings lower level (6 loc)</i>	<i>0.00 lf</i>	<i>0.00 /lf</i>	<i>0</i>
Decorative ramp rail, radius at D-lab - wall mtd	25.00 lf	175.00 /lf	4,375
Decorative ramp rail, radius at D-lab - floor mtd	20.00 lf	550.00 /lf	11,000
Straight ladder - auditorium (A2.8),	102.00 lf	650.00 /lf	66,300
Elevator pit ladders	3.00 ls	2,600.00 /ls	7,800
Rail at auditorium catwalks - A2.4E, A3.3E	730.00 lf	210.00 /lf	153,300
Rail at black box catwalks - A2.3E	180.00 lf	210.00 /lf	37,800
Additional misc metals	408,500.00 gsf	0.75 /gsf	306,375
055000 Metal Fabrications	408,500.00 gsf	1.56 /gsf	637,725
057300 Decorative Glass Railings			
Decorative glass railing at Forum/bridge- straight (3/A10.0.2)	100.00 lf	445.00 /lf	44,500
057300 Decorative Glass Railings			44,500
057500 Decorative Formed Metal (column covers)			
Int aluminum column covers say 24" diam - 5/14 28/16 6/24	662.00 lf	310.00 /lf	205,220
057500 Decorative Formed Metal (column covers)	408,500.00 lf	0.50 /lf	205,220
064020 Interior Architectural Woodwork			
Window sills at borrowed lights- solid surface per 4/A7.1.2 nc	850.00 lf	60.00 /lf	51,000
Window sills at exterior- solid surface per 3/A7.1.2 nc	2,270.00 lf	60.00 /lf	136,200
Framing, circular around Lockers - radius/straight, trim between lockers, wood soffit cap (A8.5.1) was 843'	825.00 lf	200.00 /lf	165,000
Third Floor Overlook (4/A 8.6.5)	570.00 sf	110.00 /sf	62,700
Decorative Stairs & Mezz Railing at Preschool (A10.2.2) railing only nc	68.00 lf	50.00 /lf	3,400
Counter at kitchen/servery - with food service eqp nc	0.00 lf	490.00 /lf	0
Cafeteria Island Counter nc	70.00 lf	450.00 /lf	31,500
Performing Arts Spine Benches (3&9/A 8.6.1) -nc	313.00 sf	148.00 /sf	46,324
Performing Arts Under stair Bench (5/A 8.6.1) -nc	201.00 sf	148.00 /sf	29,748
Library Bench Under Stair - radius (17/A8.6.2) was 126 sf	139.00 sf	196.00 /sf	27,244
Auditorium Balcony Lobby Bench (20/A 8.6.2) was 91 sf	80.00 sf	148.00 /sf	11,840
Courtyard Window Bay Bench (15/A8.6.2) was 172 sf (non-typical)	126.00 sf	100.00 /sf	12,600
Library Bench - mostly radius (13/A8.6.2) was 80 sf	120.00 sf	196.00 /sf	23,520
Work Bars Overlooking Forum (13/A8.6.5) counter/wall panels was 346 sf	554.00 sf	110.00 /sf	60,940
Upper Forum Seating Area (1/A8.6.5) was 408 sf	791.00 sf	148.00 /sf	117,068
<i>Lobby Millwork Pop Out (1/A8.6.5) (prev 186sf) not drawn/new name</i>	<i>0.00 sf</i>	<i>/sf</i>	
Cafeteria Wall Bench (1/A 8.6.1) was 267	295.00 sf	124.00 /sf	36,580
Preschool Understair Bench (8/A 8.6.1) nc	175.00 sf	148.00 /sf	25,900
Preschool Peg Board (8/A8.6.5) nc	84.00 sf	90.00 /sf	7,560
Lightwell Counter - curved premium (4/A 8.6.8) was 265 lf	246.00 lf	500.00 /lf	123,000
Library Light Cone Counter - curved premium (2/A 8.6.8) - was 93 lf	84.00 lf	500.00 /lf	42,000



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
064020 Interior Architectural Woodwork			
Media Circulation Desk (12/A8.6.3) was 22'	26.00 lf	1,050.00 /lf	27,300
Media Circulation Desk - wall shelving (FC 2.3b) nc	27.00 lf	300.00 /lf	8,100
Mass Ave Admin Desk (8/A8.6.3) nc	13.00 lf	980.00 /lf	12,740
First Floor Admin Desk (5/A8.6.3) nc	10.00 lf	980.00 /lf	9,800
Preschool Admin Desk - partially radius (1/A8.6.3) was 25'	25.00 lf	1,450.00 /lf	36,250
Display Cases at Gym - built-in component (6/A8.6.4) nc	31.00 lf	480.00 /lf	14,880
Steam Small Display (9/A 8.6.4) was 7'	13.25 lf	479.99 /lf	6,360
Single Tall Display - built-in component (8/A8.6.4) was 4'	16.00 lf	479.99 /lf	7,680
Double Tall Display - built-in component (7/A8.6.4) nc	8.00 lf	480.00 /lf	3,840
Corridor Display - built-in component (11/A8.6.4) nc	4.00 lf	479.99 /lf	1,920
Auditorium Displays - built-in component (10/A8.6.4) nc	8.00 lf	480.00 /lf	3,840
Library Entry Display - built-in component (12/A8.6.4) nc	3.00 lf	479.99 /lf	1,440
Balcony Entry Display - built-in component (16/A8.6.4) nc	3.00 lf	479.99 /lf	1,440
Balcony Lobby Display - built-in component (14/A8.6.4) was 11'	15.00 lf	480.00 /lf	7,200
Life Skill Cafe counter - curved premium (3/A 8.6.7) nc	48.00 lf	1,057.25 /lf	50,748
Life Skill Cafe counter (3/A 8.6.7) new	12.00 lf	800.00 /lf	9,600
Life Skill Cafe pivot sliding cabinet doors (3/A 8.6.7) nc	13.00 lf	800.00 /lf	10,400
064020 Interior Architectural Woodwork	408,500.00 sf	3.01 /sf	1,227,662
070001 Waterproofing, Caulking			
sealing & caulking - int	409,272.00 gsf	0.99 /gsf	405,179
070001 Waterproofing, Caulking		/gsf	405,179
080007 Glazing			
Mirror, frameless at ALT PE (1 room)	431.00 sf	38.00 /sf	16,378
Mirror, frameless - dressing rooms (3 loc)	300.00 sf	38.00 /sf	11,400
Mirror glass at typ practiced room (8 loc)	107.00 sf	38.00 /sf	4,066
Double sided mirror at PS Observation	2.00 ls	500.00 /ls	1,000
080007 Glazing		/gsf	32,844
101100 Visual Display Surfaces			
Tackboards - 3'	9.00 lf	216.00 /lf	1,944
Tackboards - 4'	112.00 ea	288.00 /ea	32,256
Tackboards - 8'	24.00 ea	576.00 /ea	13,824
Markerboards - 6'	30.00 ea	432.00 /ea	12,960
Markerboards - 6' lined	6.00 ea	432.00 /ea	2,592
Markerboards - 8'	200.00 ea	576.00 /ea	115,200
Markerboards - 8' lined	8.00 ea	576.00 /ea	4,608
Markerboards - 10'	130.00 ea	720.00 /ea	93,600
Markerboards - 10' lined	10.00 ea	720.00 /ea	7,200
Markerboards - 12'	24.00 ea	864.00 /ea	20,736
Markerboards - 12' lined	24.00 ea	864.00 /ea	20,736
Markerboards - 16' lined	32.00 ea	1,152.00 /ea	36,864
101100 Visual Display Surfaces	408,500.00 gsf	0.89 /gsf	362,520
101400 Signage			
Building signage and graphics- interior	408,500.00 gsf	0.50 /gsf	204,250
Vinyl Grapic Wall Mural at Cafeteria	862.00 sf	12.00 /sf	10,344
Vinyl Grapic Wall Mural at PreK, behind stairs 41'x20'h	820.00 sf	12.00 /sf	9,840
Vinyl Graphic at auditorium	2,000.00 sf	12.00 /sf	24,000
Vinyl Grapic Wall Mural at Music Entry Stairs (5/A12.8.6)	1,230.00 sf	12.00 /sf	14,760
Vinyl Grapic Wall - large gym (2/A12.5.2)	875.00 sf	12.00 /sf	10,500
Vinyl Grapic Wall - at black box	1,120.00 sf	12.00 /sf	13,440



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
101400 Signage	408,500.00 gsf	0.70 /gsf	287,134
102100 Toilet Compartments and Cubicles			
Toilet partitions - handicap	8.00 ea	2,541.00 /ea	20,328
Toilet partitions - regular	39.00 ea	1,786.40 /ea	69,670
Toilet partitions - urinal screen	18.00 ea	654.50 /ea	11,781
Toilet partitions - handicap	2.00 ea	2,541.00 /ea	5,082
Toilet partitions - regular	4.00 ea	1,786.40 /ea	7,146
Toilet partitions - urinal screen	1.00 ea	654.50 /ea	655
102100 Toilet Compartments and Cubicles	408,500.00 gsf	0.28 /gsf	114,661
102123 Cubicle Curtains and Tracts			
Track and curtain (preschool nurse)	1.00 bed	2,500.00 /bed	2,500
Track and curtain (LABBB nurse)	1.00 bed	2,500.00 /bed	2,500
Track and curtain (HS nurse)	6.00 bed	2,500.00 /bed	15,000
102123 Cubicle Curtains and Tracts	408,500.00 gsf	0.05 /gsf	20,000
102610 Corner Guards			
Corner guards - at kitchen	1.00 ls	15,000.00 /ls	15,000
102610 Corner Guards	408,500.00 gsf	0.04 /gsf	15,000
102800 Toilet Accessories			
Toilet paper dispenser, install only	116.00 ea	90.00 /ea	10,440
Sanitary napkin disposal	120.00 ea	214.00 /ea	25,680
Toilet paper dispenser furnish only	7.00 ea	65.00 /ea	455
Sanitary napkin disposal	4.00 ea	213.95 /ea	856
Grab bars (42") furnish and install only	136.00 ea	125.00 /ea	17,000
Grab bars (42") furnish and install	3.00 ea	125.01 /ea	375
Soap dispenser - surface mounted, install only	120.00 ea	45.00 /ea	5,400
Soap dispenser - surface mounted install only	5.00 ea	44.99 /ea	225
Waste receptacle - recessed furnish only	91.00 ea	137.50 /ea	12,512
HD1 hand dryers furnish only	28.00 ea	458.86 /ea	12,848
Waste receptacle - recessed (1 per single bathroom 2 per gang bathroom) furnish only	3.00 ea	224.99 /ea	675
HD1 hand dryers (1 per single bathroom 2 per gang bathroom) furnish only	3.00 ea	550.00 /ea	1,650
Framed mirrors (18" x 36") furnish only	120.00 ea	225.00 /ea	27,000
Framed mirrors (18" x 36") furnish only	5.00 ea	225.01 /ea	1,125
Shower rod and curtain furnish only	13.00 ea	178.20 /ea	2,317
Shower seat - folding furnish only	7.00 ea	400.00 /ea	2,800
Janitors/mop sink - furnish only	12.00 ea	275.00 /ea	3,300
Janitors/mop sink furnish only	1.00 ea	275.00 /ea	275
102800 Toilet Accessories	408,500.00 gsf	0.31 /gsf	124,933
104400 Fire Protection Specialties			
Multi-purpose dry chemical extinguishers & cabinet	120.00 ea	300.00 /ea	36,000
104400 Fire Protection Specialties	408,500.00 gsf	0.09 /gsf	36,000
105100 Lockers			
benches	25.00 ea	440.00 /ea	11,000
Lockers, 1 openings - locker rooms	100.00 ea	375.00 /ea	37,500
Lockers, 5 openings - locker rooms	310.00 ea	475.00 /ea	147,250
Lockers, 3 openings - typ classroom corridor	671.00 ea	425.00 /ea	285,175



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
105100 Lockers	408,500.00 gsf	1.18 /gsf	480,925
C1030 Specialties/Millwork	408,500.00 gsf	9.78 /gsf	3,994,303
C10 Interior Construction	408,500.00 gsf	42.84 /gsf	17,501,515
C20 Stairs			
C2010 Stair Construction			
033045 Concrete - SOD			
Concrete Riggs - pan stairs	1.00 ls	60,000.00 /ls	60,000
Place & finish pan fill stairs phase 2 only	25.00 fl	2,906.12 /fl	72,653
033045 Concrete - SOD	27.00 sf	4,913.07 /sf	132,653
055000 Metal Fabrications			
Egress stair 1- painted mesh rails - L1 to roof (6 fl) - 6'-6" w	138.00 rs	1,140.00 /rs	157,320
<i>Egress stair 2- without rails - L2 to roof (4 fl) - 6'-6" w</i>	<i>98.00 rs</i>	<i>/rs</i>	
<i>Egress stair 3- without rails - L2 to L5 (3 fl) - 6' w</i>	<i>73.00 rs</i>	<i>/rs</i>	
Egress stair 9 - painted mesh rails - L2 to L3 auditorium (1 fl) - 4' w	27.00 rs	1,400.00 /rs	37,800
Egress stair 4- painted mesh rails - L1 to L5 (5 fl) - 6' w	113.00 rs	1,140.00 /rs	128,820
Egress stair 6 - painted mesh rails - L1 to L1+ (1 fl) - 4'-6"	20.00 rs	1,140.00 /rs	22,800
Egress stair 8- painted mesh rails - L1 to L2 (2 fl) - 4'-6"	40.00 rs	1,140.00 /rs	45,600
Egress stair 7 (gym)- painted mesh rails - L1 to L2 (2 fl) - 5' w	40.00 rs	1,140.00 /rs	45,600
Egress stair 5 (gym)- painted mesh rails - L1 to L2 (2 fl) - 5' w	40.00 rs	1,140.00 /rs	45,600
Stair 10 Custom stairs L2 to L3 music wing - not incl rail (1 fl) - 5'-6" w	27.00 rs	1,140.00 /rs	30,780
Stair 10 custom concealed railing to support wood - stairs	35.00 lf	200.00 /lf	7,000
Stair 10 custom concealed railing to support wood - adjacent half wall	57.00 lf	200.00 /lf	11,400
Stair 10 wall mtd rail	70.00 lf	150.00 /lf	10,500
Stair 12 Custom stairs L3 to L4 library - not incl rail (1 fl) - 4'-6" w	23.00 rs	1,500.00 /rs	34,500
Stair 12 custom concealed railing to support wood - stairs	66.00 lf	0.01 /lf	1
Stair 12 curved glass rail	35.00 lf	600.00 /lf	21,000
Stair 12 wall mtd rail	66.00 lf	150.00 /lf	9,900
Stair 13 wall mtd rail	52.00 lf	150.00 /lf	7,800
Stair 13 Custom stairs L1 to L1+ at Guidance - not incl rail (1 fl) - 4'-6" w	20.00 rs	1,000.00 /rs	20,000
Stair 13 custom concealed railing to support wood - stairs	26.00 lf	0.01 /lf	0
Stair 13 custom concealed railing to support wood - adjacent half wall	52.00 lf	200.00 /lf	10,400
Stair 11 wall mtd rail	58.00 lf	150.00 /lf	8,700
Stair 11 Custom stairs L1 to L1+ at PreK - not incl rail (1 fl) - 5' w	20.00 rs	925.00 /rs	18,500
Stair 11 custom concealed railing to support wood - stairs	29.00 lf	0.01 /lf	0
Stair 11 custom concealed railing to support wood - adjacent half wall	40.00 lf	200.00 /lf	8,000
Stepped seating/stairs at Forum L1 to L2- not incl rail (2 fl)	2.00 fl	90,000.00 /fl	180,000
Stepped seating/stairs at Forum L1 to L2- wall mtd rail SS	60.00 lf	225.00 /lf	13,500
Stepped seating/stairs at Forum L1 to L2- ailes rail SS	52.00 lf	450.00 /lf	23,400
Stepped seating/stairs custom concealed railing to support wood - stairs	120.00 lf	225.00 /lf	27,000
Stepped seating/stairs custom concealed railing to support wood - adjacent half wall	95.00 lf	225.00 /lf	21,375
Egress stair 2- rails only - L2 to roof (4 fl) - 6'-6" w	98.00 rs	425.00 /rs	41,650
Egress stair 3- rails only - L2 to L5 (3 fl) - 6' w	73.00 rs	425.00 /rs	31,025
Add for stainless steel handrail	1,557.50 lf	60.00 /lf	93,450
Ships ladder at stair 12	1.00 ls	15,000.00 /ls	15,000
055000 Metal Fabrications	32.00 gsf	35,263.16 /gsf	1,128,421
064020 Interior Architectural Woodwork			
Stair 7 - wood cap at rail	78.00 lf	30.00 /lf	2,340



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064020 Interior Architectural Woodwork			
Stair 6 - wood cap at rail (33x2 + 60)	126.00 lf	30.00 /lf	3,780
Stair 5 - wood cap at rail (39 + 57)	96.00 lf	30.00 /lf	2,880
Stair 11 - wood cap at rail (29 + 40)	69.00 lf	30.00 /lf	2,070
Forum stairs - wood cap at rail (60x2 + 55)	175.00 lf	60.00 /lf	10,500
Forum stairs - wood paneling at rail - horiz 55x11	550.00 sf	80.00 /sf	44,000
Forum stairs - wood paneling at rail - sloped 120 x 12	1,440.00 sf	80.00 /sf	115,200
064020 Interior Architectural Woodwork		/sf	180,770
C2010 Stair Construction	408,500.00 gsf	3.53 /gsf	1,441,844
C2020 Stair Finishes			
064020 Interior Architectural Woodwork			
Wood resin composite treads/seating forum stairs	963.00 sf	70.00 /sf	67,410
Wood resin composite risers - 6"	270.00 lf	70.00 /lf	18,900
Wood resin composite risers - 18"	203.00 lf	110.00 /lf	22,330
064020 Interior Architectural Woodwork		/sf	108,640
090005 Resilient Flooring (TS)			
RBFR Rubber treads and risers	4,002.00 lf	40.00 /lf	160,080
090005 Resilient Flooring (TS)		/gsf	160,080
090007 Painting			
Paint Stairs	26.00 fl	2,000.00 /fl	52,000
090007 Painting		/gsf	52,000
096625 Precast Terrazzo			
Precast Terrazzo stair treads&riser (1 1/2" thick) Forum Stairs	384.00 lf	175.00 /lf	67,200
096625 Precast Terrazzo			67,200
101500 Photoluminescent Safety Products			
Photoluminescent safety at stairs	26.00 fl	2,400.00 /fl	62,400
101500 Photoluminescent Safety Products	26.00 fl	2,400.00 /fl	62,400
C2020 Stair Finishes	408,500.00 gsf	1.10 /gsf	450,320
C20 Stairs	408,500.00 gsf	4.63 /gsf	1,892,164
C30 Interior Finishes			
C3010 Wall Finishes			
064020 Interior Architectural Woodwork			
Trackable Fiber Panel 064020.48 nc	3,801.00 sf	18.00 /sf	68,418
Multi-sensory wall - interactive maple recessed pegboard - PreK multipurpose nc	110.00 sf	100.00 /sf	11,000
Wall panel at stair at level 1 entry reception 2/A12.8.0.b - 20'x16'h nc	320.00 sf	78.00 /sf	24,960
3M panel at locker islands -38.5'x6' x 4 loc (11/A8.51) prev 809 sf	924.00 sf	160.00 /sf	147,840
Auditorium wood panel at balcony facia per A 8.7.4	1,805.00 sf	110.00 /sf	198,550
Auditorium wood panel at lower level half cap and trim	168.00 lf	75.00 /lf	12,600
Auditorium proscenium wall paneling - complete surround	786.00 sf	90.00 /sf	70,740
Wall panel at stair at music entry 4,7/A10.2.1 nc	720.00 sf	78.00 /sf	56,160



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
064020 Interior Architectural Woodwork			
Auditorium Entry wood facets (A 8.6.9)	755.00 sf	88.00 /sf	66,440
Auditorium Entry wood surround (2/A 8.6.9)	414.00 sf	88.00 /sf	36,432
Auditorium wood panel at auditorium walls (A 8.7.1 & A 8.7.2)	3,000.00 sf	88.00 /sf	264,000
Auditorium angled wood panel at auditorium walls (A 8.7.1 & A 8.7.2)	297.00 sf	88.00 /sf	26,136
Wall paneling 064020.44 at Upper Auditorium Balcony Entrance (A 8.7.7)	544.00 sf	78.00 /sf	42,432
Wall paneling 064020.44 at S Media Center (A 8.7.7) new	784.00 sf	78.00 /sf	61,152
Wall paneling 064020.44 at E Media Center (A 8.7.7) new	419.00 sf	78.00 /sf	32,682
Wall paneling 064020.44 at D Lab (A 8.7.7)	389.00 sf	78.00 /sf	30,342
/sf			1,149,884
064020 Interior Architectural Woodwork			
066400 FRP Paneling			
FRP - Fiberglass Reinforced Plastic Paneling 10'4" at kitchen	1,119.00 sf	13.86 /sf	15,509
FRP - Fiberglass Reinforced Plastic Paneling 8'4" closets	6,144.00 sf	0.00 /sf	6
/gsf			15,515
066400 FRP Paneling			
090007 Painting			
Paint bathroom walls	950.00 sf	1.25 /sf	1,188
Paint drywall partitions	520,000.00 sf	0.90 /sf	468,000
Premium for high performance paint	30,000.00 sf	0.60 /sf	18,000
Premium for high performance paint at closets	65,000.00 sf	0.60 /sf	39,000
Stencil on walls	1.00 ls	20,000.00 /ls	20,000
Paint CMU - interior - toilet bldg	3,302.00 sf	1.10 /sf	3,632
Custom graphics	0.01 allw	1.00 /allw	0
/gsf			549,820
090007 Painting			
093000 Tiling (TS)			
Wall tile at staff bathroom - 3'-4" (255 lf)	850.00 sf	21.00 /sf	17,850
Wall tile at preschool - 4'-4" (1,256 lf)	5,446.00 sf	21.00 /sf	114,366
Wall tile at corridors - 4'8"(mostly) (6,920 lf)	32,310.00 sf	21.00 /sf	678,510
Wall tile at bathrooms - 6'-10" (3,405 lf)	24,405.00 sf	21.00 /sf	512,505
Wall tile at cafeteria millwork - 3'-6"	438.00 sf	45.00 /sf	19,710
Wall tile at forum stair - 3'-2"	263.00 sf	45.00 /sf	11,835
Wall tile at lightwells	1,390.00 sf	50.00 /sf	69,500
Premium for tile graphics	1.00 ls	8,000.00 /ls	8,000
65,185.00 sf			1,432,276
093000 Tiling (TS)			
098400 Acoustic Room Components			
SAFS at inside of light wells SonaSpray fc - cones - 32' x 32' x 2	2,048.00 sf	9.00 /sf	18,432
SAFS at inside of light wells - ovals 52' x 78 x 2	8,112.00 sf	9.00 /sf	73,008
SAFS at inside of light wells - trapazioid 47' x 164	7,708.00 sf	8.00 /sf	61,664
SAFS at inside of light wells - adj to gym 64' x 95'	6,080.00 sf	8.00 /sf	48,640
AWP1 Wood fiber panels Tetcum Finale 098400.08	6,844.00 sf	28.00 /sf	191,632
AWP1 Wood fiber panels - Band, Chorus & Ensemble	2,580.00 sf	28.00 /sf	72,240
AWP1 Wood fiber panels - Practice Rooms (8 rms)	864.00 sf	28.00 /sf	24,192
AWP1 Wood Fiber Panel - Production Lab & Studio	1,016.00 sf	28.00 /sf	28,448
AWP2 Fiberglass Acoustic Wall Panel - Library	990.00 sf	35.00 /sf	34,650
AWP2 Fiberglass Acoustic Wall Panel - Language Labs	553.00 sf	35.00 /sf	19,355
AWP2 Fiberglass Acoustic Wall Panel - DLab	455.00 sf	35.00 /sf	15,925
AWP2 Fiberglass Acoustical Panel Type 2 Fusco Facade	453.00 sf	50.00 /sf	22,650
AWP3 Black arch fiberglass boards at Performing Arts	1,200.00 sf	12.00 /sf	14,400
Paint grade wood acoustical panels at auditorium	2,000.00 sf	85.00 /sf	170,000
/sf			795,236
098400 Acoustic Room Components			



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C3010 Wall Finishes	408,500.00 gsf	9.65 /gsf	3,942,731
C3020 Floor Finishes			
015020 Trade Support			
Final Cleaning	408,000.00 sf	1.00 /sf	408,000
Credit for design contingency	(3.00) %	10,059.00 /%	(30,177)
015020 Trade Support		/gsf	377,823
033560 Concrete Densifier/Hardener/Sealer			
Exp-C exposed concrete/hardner sealer	24,233.00 sf	2.20 /sf	53,313
033560 Concrete Densifier/Hardener/Sealer	22,856.00 gsf	2.33 /gsf	53,313
033650 Concrete Finishes (polished concrete)			
AFC-1 Arch finished floor type 1, polished & stained	29,295.00 sf	11.00 /sf	322,245
AFC-2 Arch finished floor type 2, polished, unstained	12,612.00 sf	9.80 /sf	123,598
033650 Concrete Finishes (polished concrete)	21,968.00 sf	20.30 /sf	445,843
064020 Interior Architectural Woodwork			
Wood resin composite floor - level 2	384.00 sf	45.00 /sf	17,280
064020 Interior Architectural Woodwork	1,104.00 sf	15.65 /sf	17,280
090005 Resilient Flooring (TS)			
RFF Resilient Tile Flocked flooring (Forbo Flotex) Life Skills	1,155.00 sf	7.50 /sf	8,663
Linoleum Sheet flooring Forbo Marmoleum MCS (PreK only)	5,000.00 sf	7.00 /sf	35,000
RF - Linoleum tile (Forbo MCT)	228,779.00 sf	4.80 /sf	1,098,139
RF - Linoleum tile premium for high moisture adhesive	233,779.00 sf	0.75 /sf	175,334
Floor prep	233,779.00 sf	0.50 /sf	116,890
RB - Rubber base	64,629.00 lf	3.50 /lf	226,202
RF - Linoleum tile/sheet premium for water jet cutting (Preschool corridor leaves)	1.00 ls	25,000.00 /ls	25,000
090005 Resilient Flooring (TS)		/gsf	1,685,227
090160 Vapor Mitigation at Slabs			
Moisture mitigation at resilient flooring n/r	253,381.00 sf	0.00 /sf	253
Moisture mitigation at carpet n/r	23,463.00 sf	0.00 /sf	23
Moisture mitigation and leveling at wood athletic flooring	16,253.00 sf	5.10 /sf	82,890
Moisture mitigation at stage flooring	5,203.00 sf	5.10 /sf	26,535
090160 Vapor Mitigation at Slabs	35,639.00 sf	3.08 /sf	109,702
096400 Stage Wood Flooring			
SWF - Stage Wood Flooring - auditorium stage	2,572.00 sf	20.00 /sf	51,440
SWF - Stage Wood Flooring - Performing Arts	2,631.00 sf	20.00 /sf	52,620
096400 Stage Wood Flooring	5,098.00 sf	20.41 /sf	104,060
096466 Wood Athletic Flooring			
VCB - Rubber Ventilating Cove Base (used with WAF & SWF)	987.00 lf	10.00 /lf	9,870
WAF - Wood Athletic Flooring (Gym)	16,253.00 sf	18.00 /sf	292,554
096466 Wood Athletic Flooring	16,038.00 sf	18.86 /sf	302,424
096565 Poured Athletic Flooring			



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
096565 Poured Athletic Flooring			
RAF1 - Resilient athletic flooring type 1 Taraflex Sport M plus, (Part C)	1,464.00 sf	10.00 /sf	14,640
RAF3 - Resilient athletic flooring type 3, poured seamless, with shock pad (Part A)	9,917.00 sf	13.00 /sf	128,921
096565 Poured Athletic Flooring			143,561
096566 Resilient Athletic Flooring (part of resilient TB)			
Rubber floor tile (Elevators)	112.00 sf	14.00 /sf	1,568
RAF2 - Resilient athletic flooring type 2, 3/8" Rubber(Part A)	3,064.00 sf	10.00 /sf	30,640
096566 Resilient Athletic Flooring (part of resilient TB)			32,208
096700 Fluid-Applied Flooring			
RSF - Resinous Flooring System	11,512.00 sf	14.00 /sf	161,168
RSFB - 4" Resinous flooring integral base	4,551.00 lf	5.00 /lf	22,755
096700 Fluid-Applied Flooring			183,923
096820 Carpeting			
CPT Tile	16,967.00 sf	6.00 /sf	101,802
CPT Roll goods - Auditorium and D-Lab	6,496.00 sf	6.00 /sf	38,976
Floor prep	23,463.00 sf	0.50 /sf	11,732
096820 Carpeting			152,510
C3020 Floor Finishes			408,500.00 gsf
			8.83 /gsf
			3,607,873
C3030 Ceiling Finishes			
015020 Trade Support			
Staging at auditorium	10,770.00 sf	20.00 /sf	215,400
015020 Trade Support			215,400
064020 Interior Architectural Woodwork			
Acoustical wood slat ceiling hung at auditorium (A 8.7.3)	3,546.00 sf	85.00 /sf	301,410
064020 Interior Architectural Woodwork			301,410
090003 Acoustical Tile (TS)			
Wood Plank System - C 6 (prev 1,152sf)	1,094.00 sf	40.00 /sf	43,760
Acoustical Ceiling Suspension System - C 1A, 2'x2' Armstrong Calla 2820/2821 (prev 18,071sf)	17,817.00 sf	5.40 /sf	96,212
Acoustical Ceiling Suspension System - C 1A, 2'x4' Armstrong Calla 2820/2821 (prev 144,685sf)	162,171.00 sf	5.30 /sf	859,506
Acoustical Ceiling Suspension System - C 1B, clouds USG Mars ClimaPlus 2'x6' (prev 4,959sf)	4,045.00 sf	8.00 /sf	32,360
Acoustical Ceiling Suspension System - C 1B, 2'x6' USG Mars ClimaPlus (prev 29,398sf)	24,145.00 sf	8.00 /sf	193,160
Acoustical Ceiling Suspension System - C 1B, 2'x6', offset USG Mars ClimaPlus (prev 57,795sf)	57,249.00 sf	8.00 /sf	457,992
Acoustical Ceiling Suspension System - C 1C, 2'x6' Armstrong, Optima 3161 (prev 4,187sf)	11,420.00 sf	8.00 /sf	91,360
Acoustical Ceiling Suspension System - C 1C, 2'x6', offset Armstrong, Optima 3161 (prev 8,076sf) not drawn	0.00 sf	/sf	
Acoustic Ceiling Suspension System - Black Tile and Grid - C 1D, 2'x2'	248.00 sf	8.50 /sf	2,108
Acoustic Ceiling Suspension System - Washable - C 1E, 2'x4' (prev 2,641sf)	2,223.00 sf	7.25 /sf	16,117
Acoustic Gypsum Lay-in Suspension System - C 1F, 2'x2' (prev 3,373sf)	2,583.00 sf	4.60 /sf	11,882



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
090003 Acoustical Tile (TS)			
Acoustic Gypsum Lay-in Suspension System - C 1F, 2'x4' (prev 7,741sf)	6,570.00 sf	4.50 /sf	29,565
Acoustic Ceiling Susupension System w Pyramid Diffser - C 1G, 4'x4' (prev 4,998sf)	4,879.00 sf	35.00 /sf	170,765
Acoustic Ceiling Susupension System - C 1H, 2'x4' (prev 23,155sf)	14,400.00 sf	5.40 /sf	77,760
Axiom trim - 6" (prev 1,134lf)	1,200.00 lf	40.00 /lf	48,000
Wood Baffle, felt - C 4A - 12" oc (prev 12,548sf)	6,510.00 sf	40.00 /sf	260,400
Wood Baffle, wood baffel - C 4B	8,047.00 sf	56.43 /sf	454,092
3D Solid Ceiling Tile System - C 5A (prev 1,871sf) not drawn	1,871.00 sf	45.00 /sf	84,195
3D Open Ceiling tile System - C 5B (prev332sf)	354.00 sf	45.00 /sf	15,930
Extruded alum light edge detail on A3.7	6,000.00 lf	30.00 /lf	180,000
090003 Acoustical Tile (TS)		/gsf	3,125,164
090007 Painting			
Paint drywall ceilings & soffits (prev 53,068sf)	47,239.00 sf	0.83 /sf	38,972
Paint drywall ceilings	623.00 sf	1.10 /sf	685
Paint exposed ceilings - no K13 (prev 50,441sf)	56,270.00 sf	1.65 /sf	92,846
090007 Painting		/gsf	132,503
092900 Gypsum Board Assemblies			
Gypsum Board Ceiling - C 2A (prev 25,819sf)	25,819.00 sf	12.00 /sf	309,828
Sloped ceilings at underside of stairs	5,233.00 sf	14.00 /sf	73,262
Acoustically Isolated Suspended Gypsum Board - C 2B 2 layer + batt insul	14,061.00 sf	28.00 /sf	393,708
GWB soffit vert - one sided (horiz with ceiling above) - 5' typ	4,100.00 lf	80.00 /lf	328,000
GWB soffit vert - two sided - 5' typ	1,109.00 lf	96.00 /lf	106,464
GWB soffit vert - one sided at skylights (prev 563lf)	1,680.00 lf	40.00 /lf	67,200
GWB soffit horiz	3,645.00 sf	12.00 /sf	43,740
092900 Gypsum Board Assemblies	408,500.00 sf	3.24 /sf	1,322,202
092910 Direct Applied Finish System (DAFS)			
Gypsum board ceilings - C 2A	623.00 sf	9.00 /sf	5,607
092910 Direct Applied Finish System (DAFS)		/sf	5,607
098400 Acoustic Room Components			
Spray Applied Acoustic Treatment - 098400 - C 3 (prev 17,249sf)	15,500.00 sf	6.00 /sf	93,000
Ceiling reflector with fiber reinforced gel coat finish at auditorium (A 8.7.3)	133.00 sf	90.00 /sf	11,970
Fabric wrap on wall	320.00 sf	55.00 /sf	17,600
Polisurb	570.00 sf	18.00 /sf	10,260
Absorption panel above wood bafflees	1,000.00 sf	18.00 /sf	18,000
098400 Acoustic Room Components	38,701.00 sf	3.90 /sf	150,830
C3030 Ceiling Finishes	408,500.00 gsf	12.86 /gsf	5,253,116
C30 Interior Finishes	408,500.00 gsf	31.34 /gsf	12,803,720
C Interiors	408,500.00 gsf	78.82 /gsf	32,197,400

D Services

D10 Conveying Systems



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
D1010 Elevators & Lifts			
142400 Election Traction Elevators			
B Wing elevator - MRL - cab and machine - 4000#	1.00 ls	75,000.00 /ls	75,000
B Wing elevators - MRL stop - 4000#	6.00 stop	35,000.00 /stop	210,000
C Wing elevators - MRL - cab and machine - 3500# (2 door)	1.00 ls	70,000.00 /ls	70,000
C Wing elevators - MRL stop - 3500#	3.00 stop	35,000.00 /stop	105,000
C Wing elevators - MRL stop - 3500# - 2nd door at ground floor	1.00 stop	18,000.00 /stop	18,000
D Wing elevators - MRL - cab and machine - 3500#, 1 door	1.00 ls	70,000.00 /ls	70,000
D Wing elevators - MRL stop - 3500#	4.00 stop	35,000.00 /stop	140,000
142400 Election Traction Elevators	14.00 st	49,142.86 /st	688,000
142600 Limited-Use/Limited-Application Elevators			
Wheelchair lift	1.00 ls	34,000.00 /ls	34,000
Custom panels	1.00 ls	2,500.00 /ls	2,500
142600 Limited-Use/Limited-Application Elevators	1.00 ls	36,500.00 /ls	36,500
D1010 Elevators & Lifts	408,500.00 gsf	1.77 /gsf	724,500
D10 Conveying Systems	408,500.00 gsf	1.77 /gsf	724,500
D20 Plumbing			
D20 Plumbing			
220005 Plumbing - Misc			
勞工 for trade support - Plumbing	20.00 wks	4,334.00 /wks	86,680
Plbg contractor permits, as-builts, coring, fire stopping)	408,500.00 sf	1.07 /sf	437,095
General requirements (lump sum)	1.00 ls	2,500.00 /ls	2,500
Plumbing contractor 3D/BIM costs	3.00 ph	7,500.00 /ph	22,500
Project management	3.00 ph	20,000.00 /ph	60,000
Premium for phasing on project	3.00 ph	40,000.00 /ph	120,000
Commissioning support/lump sum	3.00 ph	1,000.00 /ph	3,000
220005 Plumbing - Misc	408,500.00 gsf	1.79 /gsf	731,775
220700 Plumbing Insulation			
Insulation/copper pipe/fiberglass	23,990.00 lf	8.18 /lf	196,239
Insulation/copper pipe/fiberglass - toilet facility	385.00 lf	8.18 /lf	3,149
Insulation/rainleader pipe/fiberglass/horiz. & vert.	6,950.00 lf	7.03 /lf	48,831
220700 Plumbing Insulation	408,500.00 gsf	0.61 /gsf	248,219
221000 Plumbing Facility Water Distribution			
Water meter w/remote readout - irrigation	5.00 ea	1,257.68 /ea	6,288
Water meter w/remote readout - 3"	2.00 ea	2,111.30 /ea	4,223
Water meter w/remote readout - 3" - toilet facility	1.00 ea	2,111.30 /ea	2,111
Backflow preventer/RPZ-BFP - 2"	1.00 ea	1,657.68 /ea	1,658
Backflow preventer/RPZ-BFP - 3" - toilet facility	1.00 ea	1,836.30 /ea	1,836
Backflow preventer/BFP - 1" HVAC makeup	2.00 ea	201.54 /ea	403
Backflow preventer/mop sink	17.00 ea	206.05 /ea	3,503
Backflow preventer/irrigation	5.00 ea	206.05 /ea	1,030
Recirculation pump/bronze	4.00 ea	727.20 /ea	2,909
Recirculation pump/bronze - lab	1.00 ea	727.20 /ea	727
Recirculation pump/bronze - TW	1.00 ea	727.20 /ea	727
Expansion tank/ASME/potable	6.00 ea	1,774.20 /ea	10,645
Expansion tank/ASME/potable - lab	1.00 ea	1,774.20 /ea	1,774



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
221000 Plumbing Facility Water Distribution			
Thermostatic mixing valve/TMV	5.00 ea	1,180.28 /ea	5,901
Thermostatic mixing valve/TMV - lab	1.00 ea	1,180.28 /ea	1,180
Thermostatic mixing valve/TMV - emergency	1.00 ea	1,180.28 /ea	1,180
Hose bibbs w/vac. breaker - interior	35.00 ea	209.08 /ea	7,318
Hose bibbs w/vac. breaker - interior - toilet facility	2.00 ea	209.08 /ea	418
Hose bibbs w/vac. breaker - exterior	18.00 ea	474.10 /ea	8,534
Shock absorbers & trap primers	408,500.00 sf	0.10 /sf	40,850
Valve box/dishwasher	15.00 ea	231.05 /ea	3,466
Valve box/washing machine	4.00 ea	231.05 /ea	924
Valve box/ice machine	5.00 ea	181.05 /ea	905
Domestic water entrance UG/ductile iron	55.00 lf	324.20 /lf	17,831
Domestic water entrance UG/ductile iron - toilet facility	30.00 lf	324.20 /lf	9,726
Domestic water AG/type "L" copper/solder	19,325.00 lf	25.69 /lf	496,374
Domestic water AG/type "L" copper/solder - toilet facility	385.00 lf	25.69 /lf	9,889
Non-potable water AG/type "L" copper/solder	3,730.00 lf	22.26 /lf	83,013
Non-potable water AG/type "L" copper/solder - irrigation	275.00 lf	22.26 /lf	6,120
Tempered water piping AG/type "L" copper/solder	1,350.00 lf	22.26 /lf	30,045
- Domestic water piping accessories	24,735.00 lf	2.59 /lf	64,087
- Domestic water piping accessories - toilet facility	415.00 lf	2.59 /lf	1,075
- Domestic water clean & test piping system	3.00 ea	1,046.80 /ea	3,140
221000 Plumbing Facility Water Distribution	408,500.00 gsf	2.03 /gsf	829,813
221300 Plumbing - Sanitary, Waste & Vent Piping			
Floor drain	55.00 ea	362.10 /ea	19,916
Floor drain - toilet facility	4.00 ea	362.10 /ea	1,448
Floor sink	6.00 ea	2,571.18 /ea	15,427
Lint interceptor	3.00 ea	724.20 /ea	2,173
Grease interceptor/interior	2.00 ea	4,363.80 /ea	8,728
<i>Elevator sump pump/oil minder</i>	<i>0.00 ea</i>	<i>/ea</i>	
Sanitary UG/cast iron single hub pipe & ftgs.	4,325.00 lf	58.07 /lf	251,165
Sanitary UG/cast iron single hub pipe & ftgs. - toilet facility	150.00 lf	58.07 /lf	8,711
Sanitary AG/cast iron no hub pipe & ftgs.	10,635.00 lf	49.37 /lf	525,052
Sanitary AG/cast iron no hub pipe & ftgs. - toilet facility	300.00 lf	49.37 /lf	14,811
Grease waste UG/CI single hub pipe & ftgs.	675.00 lf	58.07 /lf	39,199
Grease waste & vent AG/cast iron no hub pipe & ftgs.	500.00 lf	49.37 /lf	24,685
- Sanitary waste & vent piping accessories	16,135.00 lf	1.84 /lf	29,704
- Sanitary waste & vent piping accessories - toilet facility	450.00 lf	1.84 /lf	828
- Sanitary waste & vent clean & test piping system	2.00 ea	996.80 /ea	1,994
221300 Plumbing - Sanitary, Waste & Vent Piping	408,500.00 gsf	2.31 /gsf	943,840
221400 Plumbing - Rainleader Piping			
Roof drain	23.00 ea	366.10 /ea	8,420
Roof drain - 4"	67.00 ea	298.07 /ea	19,971
Roof drain - 6"	4.00 ea	387.84 /ea	1,551
Area drain	7.00 ea	408.84 /ea	2,862
Rainleader UG/cast iron single hub pipe & ftgs.	2,200.00 lf	147.25 /lf	323,947
Rainleader AG/cast iron no hub pipe & ftgs.	6,950.00 lf	111.14 /lf	772,417
- Rainleader piping accessories	9,150.00 lf	1.84 /lf	16,845
- Rainleader clean & test piping system	1.00 ea	498.40 /ea	498
221400 Plumbing - Rainleader Piping	408,500.00 gsf	2.81 /gsf	1,146,512
221500 General Service Compressed Air Systems			
Duplex air compressor	1.00 ea	22,948.40 /ea	22,948
- Refrigerated dryer	1.00 ea	4,574.20 /ea	4,574
- Line filter	1.00 ea	606.05 /ea	606



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
221500 General Service Compressed Air Systems			
Compressed air piping/type "L" copper	410.00 lf	34.39 /lf	14,100
- Compressed air piping accessories	410.00 lf	2.09 /lf	857
- Compressed air clean & test piping system	1.00 ea	772.60 /ea	773
221500 General Service Compressed Air Systems	408,500.00 gsf	0.11 /gsf	43,858
222000 Plumbing - Gas Piping			
Emergency gas shut off/cabinet w/1" solenoid & UL ball valve	6.00 ea	4,022.60 /ea	24,136
Gas turret/double	147.00 ea	325.05 /ea	47,782
Gas piping UG/Trac st. stl. flex piping	30.00 lf	63.46 /lf	1,904
Gas piping/sch 40 black steel CW t&c	1,925.00 lf	34.02 /lf	65,478
- Gas piping accessories	1,975.00 lf	2.59 /lf	5,117
- Gas piping clean & test piping system	1.00 ea	1,595.20 /ea	1,595
222000 Plumbing - Gas Piping	408,500.00 gsf	0.36 /gsf	146,012
223000 Plumbing - Equipment			
Water heaters/electric	5.00 ea	1,892.35 /ea	9,462
Water heaters/electric - 250 gal	4.00 ea	33,121.00 /ea	132,484
Water heaters/electric - toilet facility	1.00 ea	1,892.35 /ea	1,892
Water heaters/electric/point of service	26.00 ea	597.25 /ea	15,529
HWH/indirect fed storage tank	3.00 ea	4,625.35 /ea	13,876
Heat exchanger/plate & frame/water to water	3.00 ea	18,863.49 /ea	56,590
223000 Plumbing - Equipment	408,500.00 gsf	0.56 /gsf	229,833
224000 Plumbing Fixtures			
Water closet/wall mnt./carrier/sensor flush valve - P-1	48.00 ea	1,614.60 /ea	77,501
Water closet/wall mnt./carrier/sensor flush valve - toilet facility	4.00 ea	1,614.60 /ea	6,458
Water closet/wall mnt./carrier/sensor flush valve/ADA - P-1A & B	78.00 ea	1,648.60 /ea	128,591
Water closet/wall mnt./carrier/sensor flush valve/ADA - toilet facility	3.00 ea	1,648.60 /ea	4,946
Urinal/wall mnt./carrier/sensor flush valve - P-2	10.00 ea	1,293.53 /ea	12,935
Urinal/wall mnt./carrier/sensor flush valve - toilet facility	2.00 ea	1,293.53 /ea	2,587
Urinal/wall mnt./carrier/sensor flush valve/ADA - P-2A	10.00 ea	1,286.12 /ea	12,861
Lavatory/undermount/sensor faucet/ADA - P-3	64.00 ea	843.98 /ea	54,015
Lavatory/undermount/sensor faucet/ADA - toilet facility	5.00 ea	843.98 /ea	4,220
Lavatory/wall hung/solar faucet/carrier/ADA - P-3A	68.00 ea	1,602.45 /ea	108,967
Faucet/gooseneck/integral lavatory/ADA - PX-4 & 5 (INSTALL ONLY)	69.00 ea	168.15 /ea	11,602
Sink/lay-in/1-bowl/std faucet - PX-1 (INSTALL ONLY)	57.00 ea	334.98 /ea	19,094
Sink/lay-in/1-bowl/std faucet/art rooms - PX-3 (INSTALL ONLY)	4.00 ea	334.98 /ea	1,340
Sink/lay-in/1-bowl/std faucet - PX-2 (INSTALL ONLY)	9.00 ea	334.98 /ea	3,015
Trough type wash sink/3-faucet - art rooms - P-7	8.00 ea	3,948.40 /ea	31,587
- Solids interceptors (art & service sinks)	13.00 ea	539.20 /ea	7,010
Mop sink - P-4	17.00 ea	1,199.40 /ea	20,390
Mop sink - toilet facility	1.00 ea	1,199.40 /ea	1,199
Service sink/wall mount/std faucet - P-4A	1.00 ea	1,017.75 /ea	1,018
Shower stall/std valve & access./3'x3' fiberglass - P-6	6.00 ea	1,078.66 /ea	6,472
Shower stall/std valve & access./3'x3' fiberglass/ADA - P-6A	7.00 ea	1,527.85 /ea	10,695
Emergency shower/eye wash sta./no mixing valve/wall mount - P-8 & 8A	15.00 ea	1,935.50 /ea	29,033
Water cooler/bottle filler only - P-5B	15.00 ea	1,812.28 /ea	27,184
Water cooler/bottle filler/single - P-5A	14.00 ea	2,107.40 /ea	29,504
Water cooler/bottle filler/single - toilet facility	2.00 ea	2,107.40 /ea	4,215
Water cooler/bottle filler/bi-level/ADA - P-5	7.00 ea	4,494.60 /ea	31,462
- Plumbing fixtures offload & distribution (major fixtures)	358.00 ea	112.10 /ea	40,132
- Plumbing fixtures offload & distribution - toilet facility	14.00 ea	112.10 /ea	1,569
- Plumbing fixtures rough-in	358.00 ea	137.10 /ea	49,082
- Plumbing fixtures rough-in - toilet facility	14.00 ea	137.10 /ea	1,919



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
224000 Plumbing Fixtures	408,500.00 gsf	1.81 /gsf	740,601
226600 Plumbing Acid Neutrilization System			
Acid neut. system w/monitor/100 gal. tank	1.00 ea	42,569.40 /ea	42,569
Floor drain	23.00 ea	350.10 /ea	8,052
Acid waste UG/sch 40 polypropylene fuseal	100.00 lf	59.29 /lf	5,929
Acid waste AG/sch 40 polypropylene fuseal	2,575.00 lf	63.16 /lf	162,631
- Acid waste & vent piping accessories	2,675.00 lf	2.09 /lf	5,593
- Acid waste & vent clean & test piping system	1.00 ea	722.60 /ea	723
226600 Plumbing Acid Neutrilization System	408,500.00 gsf	0.55 /gsf	225,498
D20 Plumbing	408,500.00 gsf	12.94 /gsf	5,285,962
D2090 Plumbing EBP #2			
220090 Plumbing EBP #2			
PJ Kennedy	1.00 ls	118,900.00 /ls	118,900
220090 Plumbing EBP #2			118,900
D2090 Plumbing EBP #2	408,500.00 gsf	0.29 /gsf	118,900
D20 Plumbing	408,500.00 gsf	13.23 /gsf	5,404,862
D30 Heating, Ventilating, and Air Conditioning (HVAC)			
D30 HVAC			
230005 HVAC - Misc			
Laborer for trade support - HVAC	45.00 wks	4,334.00 /wks	195,030
Laborer for trade support - HVAC	(45.00) wks	4,334.00 /wks	(195,030)
Shop drawings/ BIM/ ENG Support/ As-Builts	408,500.00 sf	1.25 /sf	510,625
General requirements (management, permits, as-builts, coring, fire stopping)	800.00 sf	1.50 /sf	1,200
System testing and flushing	1.00 ls	75,000.00 /ls	75,000
Manlift - per month	16.00 mo	1,889.88 /mo	30,238
Commissioning support/lump sum	408,500.00 gsf	0.25 /gsf	100,000
Coring, sleeves & firestopping	408,500.00 gsf	0.10 /gsf	40,850
Vibration & seismic restraints	408,500.00 gsf	0.25 /gsf	102,125
230005 HVAC - Misc	408,500.00 gsf	2.11 /gsf	860,038
230006 HVAC - Phasing			
Backfeeding and maintaining systems for phasing	1.00 ls	120,000.00 /ls	120,000
230006 HVAC - Phasing	408,500.00 gsf	0.29 /gsf	120,000
230007 HVAC Demo			
Demolition/cut, drop (partial) & make safe (sq. ft.)	408,500.00 gsf	0.36 /gsf	145,100
230007 HVAC Demo	408,500.00 gsf	0.36 /gsf	145,100
230593 Testing, Adjusting and Balancing for HVAC			
Testing & balancing - Fusco Area swing space reno	8,000.00 sf	2.50 /sf	20,000
Testing & balancing - First Floor Upper swing space reno	9,000.00 sf	4.50 /sf	40,500
Testing & balancing/cost per sq. ft.	408,500.00 sf	1.10 /sf	449,350
Testing & balancing/day	1.00 day	1,667.68 /day	1,668



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
230593 Testing, Adjusting and Balancing for HVAC	408,500.00 gsf	1.25 /gsf	511,518
230700 HVAC Insulation			
Insulation/ductwork/blanket wrap	235,695.00 sf	3.81 /sf	897,938
Insulation/equipment/weatherproof exposed	2,250.00 sf	12.69 /sf	28,555
Insulation/ductwork/firewrap (two layer)	2,000.00 sf	27.18 /sf	54,368
Insulation/pipe/copper (avg. size)	10,380.00 lf	9.61 /lf	99,760
Insulation/pipe/copper (refrigerant)	21,900.00 lf	9.61 /lf	210,477
Insulation/pipe/copper (condensate - VRF)	5,200.00 lf	9.61 /lf	49,976
Insulation/pipe/copper (condensate - FCU)	5,320.00 lf	9.61 /lf	51,130
Insulation/pipe/copper (1/2"-1")	22,875.00 lf	8.37 /lf	191,436
Insulation/pipe/copper (1-1/4"-2")	10,335.00 lf	10.98 /lf	113,427
Insulation/pipe/weld (avg. size)	960.00 lf	29.19 /lf	28,022
Insulation/pipe/weld (2-1/2"-4")	4,100.00 lf	16.13 /lf	66,128
Insulation/pipe/weld (5"-8")	4,090.00 lf	26.04 /lf	106,516
Insulation/pipe/copper/weatherproof exposed (roof refrigerant)	3,800.00 lf	14.50 /lf	55,100
Insulation/pipe/weld/weatherproof exposed (5"-8")	3,370.00 lf	37.11 /lf	125,050
230700 HVAC Insulation	408,500.00 gsf	5.09 /gsf	2,077,884
230900 Direct Digital Control System for HVAC			
Automatic temperature controls/cost per sq. ft. - toilet bldg	800.00 sf	4.50 /sf	3,600
Automatic temperature controls/cost per sq. ft. (proprietary)	408,500.00 sf	6.37 /sf	2,603,125
ATC - AirCuity (system hardware, start-up/commissioning, training, and support (Flow Tech quote)	0.00 ls	/ls	
ATC - AirCuity (installation)	0.00 loc	/loc	
ATC - VRF outdoor units (wiring only) - each	21.00 ea	947.64 /ea	19,900
ATC - VRF indoor units (wiring only) - each	150.00 ea	626.40 /ea	93,960
ATC - VRF refrigerant leak detection (1 per indoor unit) BACnet (classrooms only)	52.00 ea	1,179.07 /ea	61,312
230900 Direct Digital Control System for HVAC	408,500.00 gsf	6.81 /gsf	2,781,897
232113 Hydronic Piping, incl Chilled Beams			
Hot water s&r/type "L" copper solder - avg. size (misc.)	4,200.00 lf	25.89 /lf	108,717
Hot water s&r/type "L" copper solder - avg. size (VAV's)	1,980.00 lf	25.89 /lf	51,252
Hot water s&r/type "L" copper solder - 3/4"	9,040.00 lf	18.65 /lf	168,596
Hot water s&r/type "L" copper solder - 1"	3,600.00 lf	23.19 /lf	83,484
Hot water s&r/type "L" copper solder - 1-1/4"	1,355.00 lf	26.69 /lf	36,165
Hot water s&r/type "L" copper solder - 1-1/2"	1,220.00 lf	31.52 /lf	38,450
Hot water s&r/type "L" copper solder - 2"	2,060.00 lf	41.71 /lf	85,918
Hot water s&r/sch 40 blk stl ERW weld - avg. size	480.00 lf	94.20 /lf	45,214
Hot water s&r/sch 40 blk stl ERW weld - 2-1/2"	620.00 lf	49.09 /lf	30,436
Hot water s&r/sch 40 blk stl ERW weld - 2-1/2" (To RTU's)	500.00 lf	49.09 /lf	24,545
Hot water s&r/sch 40 blk stl ERW weld - 4"	740.00 lf	81.09 /lf	60,007
Hot water s&r/sch 40 blk stl ERW weld - 5"	900.00 lf	97.34 /lf	87,603
Hot water s&r/sch 40 blk stl ERW weld - 6"	1,285.00 lf	125.69 /lf	161,512
Hot water s&r/sch 40 blk stl ERW weld - 6" (roof mounted)	1,685.00 lf	125.69 /lf	211,788
Chilled water s&r/type "L" copper solder - avg. size (misc.)	4,200.00 lf	25.89 /lf	108,717
Chilled water s&r/type "L" copper solder - 3/4"	7,845.00 lf	18.65 /lf	146,309
Chilled water s&r/type "L" copper solder - 1"	2,390.00 lf	23.19 /lf	55,424
Chilled water s&r/type "L" copper solder - 1-1/4"	2,750.00 lf	26.69 /lf	73,397
Chilled water s&r/type "L" copper solder - 1-1/2"	880.00 lf	31.52 /lf	27,735
Chilled water s&r/type "L" copper solder - 2"	2,070.00 lf	41.71 /lf	86,335
Chilled water s&r/sch 40 blk stl ERW weld - avg. size	480.00 lf	94.20 /lf	45,214
Chilled water s&r/sch 40 blk stl ERW weld - 2-1/2"	925.00 lf	49.09 /lf	45,408
Chilled water s&r/sch 40 blk stl ERW weld - 4"	1,315.00 lf	81.09 /lf	106,633
Chilled water s&r/sch 40 blk stl ERW weld - 5"	625.00 lf	97.34 /lf	60,836
Chilled water s&r/sch 40 blk stl ERW weld - 6"	1,280.00 lf	125.69 /lf	160,883



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
232113 Hydronic Piping, incl Chilled Beams			
Chilled water s&r/sch 40 blk stl ERW weld - 6" (roof mounted)	1,685.00 lf	125.69 /lf	211,788
- Hydronic piping accessories	56,110.00 lf	2.60 /lf	145,610
- Hydronic pipe - Roof support stand - 3'L x 2'H (#ES200)	110.00 ea	317.29 /ea	34,902
- Suction diffusers - 6"x5" (B&G #GF-3X)	16.00 ea	1,101.94 /ea	17,631
HWP Pump/in-line/20 hp	6.00 ea	6,373.30 /ea	38,240
CHWP Pump/in-line/20 hp	10.00 ea	6,373.30 /ea	63,733
- Flex connector/HVAC pumps - 5"	32.00 ea	351.29 /ea	11,241
- Triple duty valves	16.00 ea	1,672.14 /ea	26,754
Air separators	5.00 ea	1,990.16 /ea	9,951
Expansion tanks/ASME	10.00 ea	5,878.36 /ea	58,784
Flow meter/ultrasonic	6.00 ea	2,725.30 /ea	16,352
Coil Pak	414.00 ea	504.25 /ea	208,759
Temp boiler pumps, air separator, expansion tank, etc.	1.00 ls	17,000.00 /ls	17,000
Steam piping/sch 40 blk stl/SMLS/t&c - 1-1/2"	125.00 lf	60.08 /lf	7,510
Steam piping/sch 40 blk stl/ERW/weld - 10"	125.00 lf	242.41 /lf	30,301
A/C cond. pump (VRF)	130.00 ea	232.16 /ea	30,181
A/C cond. pump (FCU)	133.00 ea	232.16 /ea	30,878
A/C cond. drains/type "L" copper (VRF system)	5,200.00 lf	21.68 /lf	112,740
<i>A/C cond. drains/type "L" copper (4-pipe FCU's)</i>	<i>0.00 lf</i>	<i>/lf</i>	
- A/C condensate piping accessories	10,520.00 lf	2.35 /lf	24,670
232113 Hydronic Piping, incl Chilled Beams	408,500.00 gsf	7.85 /gsf	3,207,603
232300 Refrigerant Piping			
Refrigerant piping/type "ACR" hard copper/brazed (HRU's to remote condensing units 200lf/unit))	3,800.00 lf	67.29 /lf	255,710
- Refrigeration piping accessories	3,800.00 lf	2.28 /lf	8,671
- Refrigeration clean & test piping system (nitrogen purge)	3,800.00 lf	1.03 /lf	3,921
- Refrigerant charge/R410B	650.00 lbs	37.02 /lbs	24,062
- Refrigeration piping - Roof support stand - 2'L x 2'H (#ES200)	300.00 ea	263.23 /ea	78,969
232300 Refrigerant Piping	408,500.00 gsf	0.91 /gsf	371,334
232500 HVAC Water Treatment			
Chemical treatment (lump sum)	2.00 ls	15,000.00 /ls	30,000
Glycol feed/50 gal. tank w/pump (Neptune #G-50-1) (HW)	2.00 ea	5,306.60 /ea	10,613
Glycol feed/50 gal. tank w/pump (Neptune #G-50-1) (CHW)	2.00 ea	5,306.60 /ea	10,613
- Glycol solution/40% propylene (HW)	7,500.00 gal	25.63 /gal	192,244
232500 HVAC Water Treatment	408,500.00 gsf	0.60 /gsf	243,470
233000 HVAC Sheetmetal			
Sheetmetal & accessories/galvanized Recon Adjustment	1.00 ls	7,391.95 /ls	7,392
Sheetmetal & accessories/galvanized (take-off)	392,000.00 lb	12.74 /lb	4,994,503
Sheetmetal & accessories/galvanized (duct distribution: Part A 1st .35 lbs/SF)	4,625.00 lb	12.74 /lb	58,927
Sheetmetal & accessories/galvanized (duct distribution: Part B 1st .35 lbs/SF)	4,749.00 lb	12.74 /lb	60,507
Sheetmetal & accessories/galvanized (duct distribution: Chorus/Band/Performing arts/support .85lbs/sf)	5,000.00 lb	12.74 /lb	63,705
Sheetmetal & accessories/galvanized (complete auditorium .35lbs/sf)	4,500.00 lb	12.74 /lb	57,335
Sheetmetal & accessories/galvanized (laser cutter exhaust)	2,400.00 lb	12.74 /lb	30,579
Sheetmetal & accessories/galvanized	300.00 lb	12.74 /lb	3,822
<i>Sheetmetal & accessories/welded stainless steel (fume hoods - recirculating)</i>	<i>0.00 lb</i>	<i>/lb</i>	
Sheetmetal & accessories/welded stainless steel (chem storage exhaust)	2,500.00 lb	36.52 /lb	91,309
Sheetmetal & accessories/welded stainless steel (paint booth)	2,500.00 lb	36.52 /lb	91,309
Sheetmetal & accessories/welded stainless steel (dishwasher)	1,400.00 lb	36.52 /lb	51,133
Sheetmetal & accessories/welded black iron (kitchen exhaust)	5,000.00 lb	21.65 /lb	108,253
Sheetmetal & accessories/welded black iron (kiln)	500.00 lb	21.65 /lb	10,825



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
233000 HVAC Sheetmetal			
SM - Add for internal ductwork liner	43,000.00 sf	7.88 /sf	338,991
SM - Diffusers, registers & grilles	728.00 ea	233.86 /ea	170,246
SM - Diffusers, registers & grilles	7.00 ea	223.85 /ea	1,567
SM - Linear slot diffusers	721.00 ea	389.76 /ea	281,015
SM - Trion Air Filter - 24"x24" AF1 and AF2	2.00 ea	2,241.30 /ea	4,483
SM - Grease duct Access Doors	14.00 ea	970.68 /ea	13,590
SM - Combination fire/smoke dampers/louver type/UL	55.00 ea	969.20 /ea	53,306
<i>SM - Smoke Dampers - in RTUs</i>	<i>0.00 ea</i>	<i>/ea</i>	
SM - Remote Control Balancing Dampers	52.00 ea	576.52 /ea	29,979
SM - Motorized damper	32.00 ea	1,001.30 /ea	32,042
SM - Smoke detectors/duct mount	21.00 ea	767.67 /ea	16,121
SM - Sound attenuators/elbow/hvy. gauge	380,500.00 cfm	0.64 /cfm	243,571
SM - Kitchen exhaust hood/st. steel/install only (by KES)	2.00 ea	1,882.72 /ea	3,765
SM - Dishwasher exhaust hood/st. steel/install only (by KES)	1.00 ea	1,176.70 /ea	1,177
Louvers - misc. - with arch	<u>0.00 sf</u>	<u>/sf</u>	
233000 HVAC Sheetmetal	408,500.00 gsf	16.69 /gsf	6,819,450
233400 HVAC Fans			
Exhaust fan/roof - mech room	4.00 ea	6,412.04 /ea	25,648
Exhaust fan/roof - Art storage	1.00 ea	6,412.04 /ea	6,412
Exhaust fan/roof - Kitchen hood exhaust 6000 CFM	1.00 ea	8,912.04 /ea	8,912
Exhaust fan/roof - Dishwasher Ex	1.00 ea	4,912.04 /ea	4,912
Exhaust fan/roof - kiln exhaust	1.00 ea	4,441.36 /ea	4,441
Exhaust fan/roof - Chem storage	1.00 ea	6,412.04 /ea	6,412
Exhaust fan/roof - Wood Shop	1.00 ea	6,412.04 /ea	6,412
EF/centrifugal upblast/roof - 200 cfm (Greenheck #CUE) US Vent per MEMO	18.00 ea	161.97 /ea	2,916
Combustion air fan/roof/w VFD - cfm (Tjernlund)	400.00 cfm	5.49 /cfm	2,195
EF/centrifugal inline/box - 300 cfm (Greenheck #SQ90-VG) Maker	3.00 ea	1,147.94 /ea	3,444
EF/centrifugal inline/box - 600 cfm	2.00 ea	1,586.61 /ea	3,173
EF/centrifugal inline/box - 500 cfm (Greenheck #SQ95VG) Fire Pump	1.00 ea	1,513.89 /ea	1,514
EF/centrifugal inline/box - 2,506 cfm (Greenheck #SQ150-VG) Mechanical	1.00 ea	2,209.86 /ea	2,210
Booster fan/inline - 25 cfm (Fantech #FG4XL) FACS Per MEMO	3.00 ea	438.47 /ea	1,315
Destratification fans/ceiling propeller 16'	4.00 ea	6,382.72 /ea	25,531
Dust collector/ 4,400 cfm	1.00 ea	48,624.08 /ea	48,624
233400 HVAC Fans	408,500.00 gsf	0.38 /gsf	154,071
233600 Air Terminal Units			
VAV's misc.	408,500.00 sf	0.05 /sf	20,425
VAV/Ex Ret Box	173.00 ea	597.88 /ea	103,433
VAV/box w controls/ - 4-5"	52.00 ea	742.88 /ea	38,630
VAV/box w controls/ - 6-7"	42.00 ea	756.88 /ea	31,789
VAV/box w controls/ - 8-9"	24.00 ea	869.35 /ea	20,864
VAV/box w controls/ - 10"	4.00 ea	923.35 /ea	3,693
VAV/box w controls/ - 10" Per Memo	26.00 ea	923.35 /ea	24,007
VAV/box w controls/ - 12"	5.00 ea	1,031.82 /ea	5,159
VAV/box w 2-row coil & controls/ - 6"	22.00 ea	760.41 /ea	16,729
VAV/box w 2-row coil & controls/ - 10"	26.00 ea	933.88 /ea	24,281
VAV/box w electric coil & controls/ - 10"	6.00 ea	1,834.82 /ea	11,009
VAV/box w electric coil & controls/ - 16"	5.00 ea	2,184.82 /ea	10,924
233600 Air Terminal Units	408,500.00 gsf	0.76 /gsf	310,944
235000 HVAC Boilers & Heat Exchangers			
Boiler/HW/electric 490mbh	2.00 ea	62,084.60 /ea	124,169
Boilers/steam/gas/high eff. cond. - 250 hp 1,000 gal tank	18.00 mo	15,700.00 /mo	282,600
Boiler circulator pump	4.00 ea	806.35 /ea	3,225



90% CD Estimate

MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
235000 HVAC Boilers & Heat Exchangers			
Fuel for start-up	1.00 ls	2,500.00 /ls	2,500
Weekly maintenance	72.00 wks	800.00 /wks	57,600
24/7 on call maintenance	1.00 ls	30,000.00 /ls	30,000
Heat exchanger/plate & frame/water to water - 400 gpm (B&G #P47)	2.00 ea	15,729.61 /ea	31,459
Buffer tanks/Lochinvar - 700 gals.	4.00 ea	10,087.49 /ea	40,350
235000 HVAC Boilers & Heat Exchangers	408,500.00 gsf	1.40 /gsf	571,904
237000 HVAC - Central Air Handling Equipment			
ERU-1	9,000.00 cfm	22.83 /cfm	205,500
ERU-2	4,000.00 cfm	17.50 /cfm	70,000
ERU-3	1,100.00 cfm	25.00 /cfm	27,500
ERU-4	8,000.00 cfm	17.50 /cfm	140,000
HRU-1 Vestibule	18,000.00 cfm	20.17 /cfm	363,000
HRU-2 Vestibule	18,000.00 cfm	20.17 /cfm	363,000
HRU-3	3,850.00 cfm	24.00 /cfm	92,400
HRU-4 Vestibule	18,000.00 cfm	20.17 /cfm	363,000
HRU-5 Vestibule	18,000.00 cfm	20.17 /cfm	363,000
HRU-6	11,650.00 cfm	16.00 /cfm	186,400
HRU-7	4,410.00 cfm	24.00 /cfm	105,840
HRU-8	5,690.00 cfm	24.00 /cfm	136,560
HRU-9	5,250.00 cfm	24.00 /cfm	126,000
HRU-10	6,250.00 cfm	24.00 /cfm	150,000
HRU-11	13,550.00 cfm	16.00 /cfm	216,800
HRU-12 w/catwalk	10,950.00 cfm	21.48 /cfm	235,200
HRU-13 w/catwalk	10,950.00 cfm	21.48 /cfm	235,200
HRU-14 w/catwalk	12,000.00 cfm	21.00 /cfm	252,000
HRU-15	6,100.00 cfm	24.00 /cfm	146,400
HV-1 Kitchen	5,500.00 cfm	6.50 /cfm	35,750
Vendor Adjustment	1.00 ls	191,005.00 /ls	191,005
- Roof curb/vibration isolation (1 - 5,000 cfm)	6.00 ea	5,833.33 /ea	35,000
- Roof curb/vibration isolation (6 - 20,000 cfm)	11.00 ea	8,000.00 /ea	88,000
ERV/indoor horiz. - 200 cfm (Lifebreath #300DCS)	1.00 ea	5,091.15 /ea	5,091
237000 HVAC - Central Air Handling Equipment	408,500.00 gsf	10.12 /gsf	4,132,646
238000 Evaporative HVAC Equipment			
Heat recovery condensing unit (72 mbh)	7.00 ea	16,801.70 /ea	117,612
Heat recovery condensing unit (96 mbh)	6.00 ea	19,594.70 /ea	117,568
Heat recovery condensing unit (120 mbh)	33.00 ea	22,316.64 /ea	736,449
Heat recovery condensing unit (144 mbh)	1.00 ea	27,769.64 /ea	27,770
Air cooled heat pump ACHP-1 (335 tons)	1.00 ea	738,898.80 /ea	738,899
Air cooled heat pump ACHP-2 (168 tons)	1.00 ea	373,119.04 /ea	373,119
Air cooled heat pump ACHP-3 (168 tons)	1.00 ea	373,119.04 /ea	373,119
Air cooled chiller ACH-1 (176 tons)	1.00 ea	251,949.40 /ea	251,949
Air cooled chiller ACH-2 (176 tons)	1.00 ea	251,949.40 /ea	251,949
Window AC unit -	2.00 ea	1,381.03 /ea	2,762
238000 Evaporative HVAC Equipment	408,500.00 gsf	7.32 /gsf	2,991,197
238025 Mini-Split VRF Heat Pump Systems			
Mini-split HP system/1-zone/wall mnt./heat or cool - 12 mbh	2.00 ea	2,338.93 /ea	4,678
Mini-split refrigeration line set/6-12 mbh - 50'	2.00 ea	584.88 /ea	1,170
Mini-split clean & test piping system (nitrogen purge)	100.00 lf	0.98 /lf	98
Mini-split refrigerant charge/R410B	30.00 lbs	29.87 /lbs	896
Mini-split condensate drains/type "L" copper	50.00 lf	19.43 /lf	972
ATC - Mini-split condensing units (w/factory controls)	2.00 ea	879.76 /ea	1,760
VRF/Indoor units/wall mnt. -	2.00 ea	1,670.88 /ea	3,342
VRF/Indoor units/4-way clg. csstt (small)	68.00 ea	2,039.00 /ea	138,652



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
238025 Mini-Split VRF Heat Pump Systems			
VRF/Indoor units/4-way clg. csst (medium)	42.00 ea	2,586.70 /ea	108,641
VRF/Indoor units/ducted horiz. - small	6.00 ea	2,065.60 /ea	12,394
VRF/Indoor units/ducted horiz. - medium	15.00 ea	2,455.18 /ea	36,828
VRF/Indoor units/ducted horiz. - medium (Part E)	11.00 ea	2,455.18 /ea	27,007
VRF/Indoor units/ducted horiz. - medium (Part E) Per Memo	5.00 ea	2,455.18 /ea	12,276
VRF/Indoor units/ducted horiz. - medium (part B) Per Memo	5.00 ea	2,455.18 /ea	12,276
VRF/Indoor units/ducted horiz. - large	5.00 ea	2,988.62 /ea	14,943
<i>VRF/Outdoor cond. unit/heat or cool - 140 mbh</i>	<i>0.00 ea</i>	<i>/ea</i>	
<i>VRF/Outdoor cond. unit/heat or cool - 140 mbh (Part E)</i>	<i>0.00 ea</i>	<i>/ea</i>	
VRF/Outdoor cond. unit/heat & cool - 72 mbh	1.00 ea	13,448.35 /ea	13,448
VRF/Outdoor cond. unit/heat & cool - 96 mbh	5.00 ea	14,144.35 /ea	70,722
VRF/Outdoor cond. unit/heat & cool - 120 mbh	4.00 ea	15,768.35 /ea	63,073
VRF/Main-branch circuit controller/max. 10-indoor units	9.00 ea	498.42 /ea	4,486
VRF/Main-branch circuit controller/max. 10-indoor units (Part E)	1.00 ea	6,876.31 /ea	6,876
VRF/Main-branch circuit controller/max. 13-indoor units	10.00 ea	7,968.68 /ea	79,687
VRF/Main-branch circuit controller/max. 13-indoor units (Part E)	1.00 ea	7,968.68 /ea	7,969
VRF system refrigerant piping/type "ACR" hard copper/brazed	2,850.00 lf	48.15 /lf	137,235
VRF system refrigerant piping/type "ACR" hard copper/brazed (Part E)	300.00 lf	48.15 /lf	14,446
VRF system refrigerant piping/type "ACR" soft copper/brazed	16,250.00 lf	32.23 /lf	523,666
VRF system refrigerant piping/type "ACR" soft copper/brazed (Part E)	2,500.00 lf	32.23 /lf	80,564
VRF system clean & test piping system (nitrogen purge)	21,900.00 lf	1.03 /lf	22,575
VRF system refrigerant charge/R410B	1,200.00 lbs	28.10 /lbs	33,725
238025 Mini-Split VRF Heat Pump Systems	408,500.00 gsf	3.51 /gsf	1,434,402
238200 Convection Heating Units			
Terminal equipment (misc.)	408,500.00 sf	0.05 /sf	20,425
Terminal equipment (@ chorus/band/performing arts & support areas)	21,550.00 sf	0.75 /sf	16,163
Terminal equipment Recon Adjustment	1.00 ls	154,265.00 /ls	154,265
Duct mount coil/1.5KW electric	1.00 ea	1,839.88 /ea	1,840
Fan coil unit/hydronic 2-pipe/horiz. or vert. - 400 cfm	37.00 ea	1,037.56 /ea	38,390
Fan Powered Coil Box 4-pipe/horiz.	142.00 ea	2,905.36 /ea	412,561
Fan Powered Coil Box 4-pipe/horiz.per Memo	20.00 ea	2,905.36 /ea	58,107
- Premium for ECM motors	179.00 ea	300.00 /ea	53,700
- Premium for ECM motors per Memo	20.00 ea	300.00 /ea	6,000
Radiant floor heating system - 4-pipe	14,000.00 sf	18.80 /sf	263,252
- Manifolds	5.00 ea	4,302.40 /ea	21,512
PR-1 Runtal Baseboard Radiation UF/RF - 8-row	150.00 lf	365.23 /lf	54,785
Cabinet unit heater/hot water/wall mount/recessed - avg. size	10.00 ea	1,664.52 /ea	16,645
Electric Wall heaters	6.00 ea	825.00 /ea	4,950
Cabinet unit heater/hot water/ceiling mount - avg. size	6.00 ea	1,825.26 /ea	10,952
Unit heater/hot water/horiz./propeller - avg. size	12.00 ea	1,153.01 /ea	13,836
Unit heater/electric/horiz./propeller - avg. size	1.00 ea	1,243.68 /ea	1,244
Unit heater/electric/horiz./propeller - 1.5 kw/5115 btu	2.00 ea	844.94 /ea	1,690
Unit heater/electric/horiz./propeller - 3 kw/10,240 btu	4.00 ea	844.94 /ea	3,380
Unit heater/electric/horiz./propeller - 4 kw/13,640 btu	3.00 ea	943.68 /ea	2,831
Unit heater/electric/horiz./propeller - 7.5 kw/25,600 btu	11.00 ea	1,287.41 /ea	14,162
Unit heater/electric/horiz./propeller - 10 kw/34,120 btu	4.00 ea	1,406.15 /ea	5,625
Unit ventilator (@ kiln)	1.00 ea	6,569.64 /ea	6,570
238200 Convection Heating Units	408,500.00 gsf	2.90 /gsf	1,182,881
238500 HVAC Equipment VFD's			
VFD w/keypad/disconnect/bypass/NEMA 1 (misc)	0.00 ls	/ls	
VFD w/keypad/disconnect/bypass/NEMA 1 - 1 hp	6.00 ea	2,569.47 /ea	15,417
VFD w/keypad/disconnect/bypass/NEMA 1 - 3 hp	1.00 ea	2,833.47 /ea	2,833
VFD w/keypad/disconnect/bypass/NEMA 1 - 20 hp	16.00 ea	4,184.47 /ea	66,952



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
238500 HVAC Equipment VFD's	408,500.00 gsf	0.21 /gsf	85,202
239000 HVAC Equipment Rigging/Setting/Start Up			
Equipment hoisting/rigging/setting/start-up	408,500.00 sf	1.60 /sf	653,600
239000 HVAC Equipment Rigging/Setting/Start Up	408,500.00 gsf	1.60 /gsf	653,600
D30 HVAC	408,500.00 gsf	70.15 /gsf	28,655,140
D30 Heating, Ventilating, and Air Conditioning (HVAC)	408,500.00 gsf	70.15 /gsf	28,655,140
D40 Fire Protection Systems			
D40 Fire Protection			
210005 Fire Protection			
Sprinkler permits, as-builts, coring, fire stopping	408,500.00 sf	0.40 /sf	163,400
Project management	3.00 ph	15,000.00 /ph	45,000
Sprinkler contractor 3D/BIM costs	3.00 ph	5,000.00 /ph	15,000
Premium for phasing on project	3.00 ph	10,000.00 /ph	30,000
Fire dept. inlet connection - 2-1/2" polished brass - roof	3.00 ea	907.23 /ea	2,722
Post indicator valve	3.00 ea	500.01 /ea	1,500
Fire dept. inlet connection - Storz 6" - RECON	2.00 ea	1,863.93 /ea	3,728
Standpipe - sch 10 black steel piping w/ fittings	2,475.00 lf	59.45 /lf	147,139
Drain riser - sch 40 black steel piping w/ fittings	650.00 lf	36.07 /lf	23,446
Fire hose valve - 2-1/2" - pressure regulating	38.00 ea	362.76 /ea	13,785
Fire hose cabinet - aluminum - recessed	38.00 ea	1,141.44 /ea	43,375
Sprinkler head - wet - recessed pendant	3,049.00 ea	129.60 /ea	395,142
Sprinkler head - wet - pendant or upright	332.00 ea	79.74 /ea	26,472
Sprinkler head - wet - above ceiling	45.00 ea	100.92 /ea	4,541
Sprinkler branch piping black steel sch. 40 w/ fittings	30,429.00 lf	28.71 /lf	873,610
Sprinkler branch piping black steel sch. 40 w/ fittings - above ceiling	225.00 lf	28.71 /lf	6,460
Sprinkler main piping black steel sch. 10 w/ fittings	10,380.00 lf	46.00 /lf	477,480
Wet alarm valve	5.00 ea	4,135.52 /ea	20,678
Double check valve (BFP) assembly - 8"	1.00 ea	11,544.72 /ea	11,545
Zone flow control valve w/ pressure reducing valve	17.00 ea	2,540.52 /ea	43,189
Waterflow switch	23.00 ea	429.80 /ea	9,885
Tamper switch	23.00 ea	364.80 /ea	8,390
Test port/test header/flush mount - 4 way	1.00 ea	389.80 /ea	390
Sprinkler head - dry - pendant or upright	45.00 ea	84.74 /ea	3,813
Dry branch piping galvanized sch. 40 - w/ fittings	450.00 lf	33.21 /lf	14,944
Dry main piping galvanized sch. 40 - w/ fittings	185.00 lf	97.79 /lf	18,091
Dry alarm valve	1.00 ea	6,835.52 /ea	6,836
Fire pump w jockey & controller (1000 gpm, 150 hp)	1.00 ea	99,999.96 /ea	100,000
210005 Fire Protection	408,500.00 gsf	6.15 /gsf	2,510,560
210010 Water Curtain at Rated Walls			
Sprinkler head - water curtain	365.00 ea	252.99 /ea	92,341
Sprinkler branch piping black steel sch. 40 w/ fittings - water curtain feed	1,460.00 lf	28.71 /lf	41,916
210010 Water Curtain at Rated Walls	408,500.00 gsf	0.33 /gsf	134,258
D40 Fire Protection	408,500.00 gsf	6.47 /gsf	2,644,818
D4010 FP - Early Bid Package #2			



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
210090 Fire Protection EBP #2			
Rustic Fire Protection	1.00 ls	125,000.00 /ls	125,000
210090 Fire Protection EBP #2			125,000
D4010 FP - Early Bid Package #2	408,500.00 gsf	0.31 /gsf	125,000
D40 Fire Protection Systems	408,500.00 gsf	6.78 /gsf	2,769,818
D50 Electrical Systems			
D50 Electrical			
110615 Audiovisual Systems - Theater			
Auditorium devices, cabling, power, and equipment	1.00 ls	216,000.00 /ls	216,000
Black Box devices, cabling, power, and equipment	1.00 ls	60,000.00 /ls	60,000
Chorus devices, cabling, power, and equipment	1.00 ls	9,600.00 /ls	9,600
Band devices, cabling, power, and equipment	1.00 ls	9,600.00 /ls	9,600
Production Lab & Studio devices, cabling, power, and equipment	1.00 ls	24,000.00 /ls	24,000
110615 Audiovisual Systems - Theater		/gsf	319,200
110620 Audiovisual Systems - Tech			
Tie into fire alarm system	408,500.00 sf	0.02 /sf	8,170
Junction box - 4" square	30.00 ea	57.54 /ea	1,726
Junction box - 4-11/16" square x 2-1/8"	7.00 ea	83.48 /ea	584
Screw cover pull box	1.00 ea	404.94 /ea	405
Touch panel	4.00 ea	1,241.80 /ea	4,967
HDMI input jack and plate	4.00 ea	173.89 /ea	696
Plywood blocking for displays and speakers	10.00 ea	214.56 /ea	2,146
<i>TV monitor - 70" Display - F&I under technology</i>	0.00 ea	/ea	
<i>TV monitor - 90" Display - F&I under technology</i>	0.00 ea	/ea	
<i>TV monitor - 98" Display - F&I under technology</i>	0.00 ea	/ea	
Video intercom 60" LCD master monitor	1.00 ea	1,328.09 /ea	1,328
Wall audio plate for line-in and microphone	4.00 ea	1,164.82 /ea	4,659
A/V floor box	1.00 ea	1,819.76 /ea	1,820
A/V rack enclosure	4.00 ea	1,046.48 /ea	4,186
Laser projector	3.00 ea	35,739.44 /ea	107,218
Empty conduit (EMT): 3/4"	448.00 lf	5.33 /lf	2,386
Empty conduit (EMT): 1"	532.00 lf	6.51 /lf	3,465
Empty conduit (EMT): 1.25"	235.00 lf	8.35 /lf	1,963
Empty conduit (EMT): 1.5"	135.00 lf	9.80 /lf	1,323
Empty conduit (EMT): 2"	142.00 lf	11.58 /lf	1,645
Empty conduit (EMT): 2.5"	39.00 lf	22.11 /lf	862
Control console	3.00 ea	16,639.52 /ea	49,919
Keypad, Nortek EI212SE	1.00 ea	491.71 /ea	492
Motorized projector lift	1.00 ea	728.15 /ea	728
Bluetooth audio receiver	1.00 ea	402.47 /ea	402
Projector screen - 100" x 160"	1.00 ea	2,472.41 /ea	2,472
Projector screen - 177" x 284"	1.00 ea	6,949.82 /ea	6,950
Projector screen - 72" x 116"	1.00 ea	1,832.41 /ea	1,832
A/V equipment power connection	25.00 ea	269.94 /ea	6,749
110620 Audiovisual Systems - Tech		/gsf	219,093
260005 Electrical - Misc			
勞工 for trade support - Electric	45.00 wks	4,334.00 /wks	195,030
勞工 for trade support - Electric	(45.00) wks	4,334.00 /wks	(195,030)



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
260005 Electrical - Misc			
Coordination of switchboard dimensions and feeder routing	60.00 mh	123.24 /mh	7,394
Coordination of routing of PV conduit distribution system	80.00 mh	123.24 /mh	9,859
Coordination of Fusco building new and adaptation of existing power	100.00 mh	123.24 /mh	12,324
Coordination of lighting control zones for light shafts, corridors, classrooms, open areas	100.00 mh	123.24 /mh	12,324
Coordination of power connections to Auditorium and Performing Arts	40.00 mh	123.24 /mh	4,930
Coordination of theatrical lighting controls with BMS	24.00 mh	123.24 /mh	2,958
Coordination of Auditorium house lighting with walls and ceiling	80.00 mh	123.24 /mh	9,859
Coordination of Performing Arts facade lighting with walls	60.00 mh	123.24 /mh	7,394
Coordination of power to door hardware equipment and access control features	200.00 mh	123.24 /mh	24,648
Coordination of power to water heaters	4.00 mh	123.24 /mh	493
Coordination of power to new and existing telecom	16.00 mh	123.24 /mh	1,972
Coordination of fire alarm and fire protection	24.00 mh	123.24 /mh	2,958
Coordination of lighting and power to Toilet Facility	30.00 mh	123.24 /mh	3,697
Temp light stringers & GFCI power	772.00 sf	0.50 /sf	386
Coring - patching - firestopping	408,500.00 sf	0.13 /sf	51,063
Project management	800.00 mh	123.24 /mh	98,592
Electrical contractor 3D/BIM costs	408,500.00 sf	0.22 /sf	89,870
Testing & seismic	1.00 ls	45,000.00 /ls	45,000
Testing & seismic	1.00 ls	500.00 /ls	500
Premium for phasing on project	1.00 ls	75,000.00 /ls	75,000
Hoisting & rigging (switchboard)	1.00 ls	74,999.67 /ls	75,000
260005 Electrical - Misc		/gsf	536,221
260010 Temporary Lighting, Power & FA			
Temporary light stringers and GFI power drops	408,500.00 sf	0.50 /sf	204,250
Temporary electric service (400A @ 480V)	2.00 ea	20,315.52 /ea	40,631
Temp power for welders - ph 2,3	7.00 ea	12,593.68 /ea	88,156
Temp power for trailer	10.00 ea	1,559.16 /ea	15,592
Temp internet connection for trailer	8.00 ea	2,155.78 /ea	17,246
Fire alarm impairment plan (NFPA-101 / NFPA-241)	1.00 ls	5,000.00 /ls	5,000
260010 Temporary Lighting, Power & FA		/gsf	370,875
260505 Enabling Work for Electrical			
Make-safe electrical demolition (removal/disposal by others)	1.00 ls	59,000.00 /ls	59,000
Interface new and existing fire alarm to meet phasing requirements	1.00 ea	17,359.20 /ea	17,359
Remove FUSCO including fire alarm and electric services	2.00 ls	15,091.60 /ls	30,183
Remove existing sports lighting and cut post foundation below grade	1.00 ea	7,499.97 /ea	7,500
<i>Remove primary and secondary electric service to Downs House</i>	<i>0.00 ls</i>	<i>/ls</i>	
<i>Remove primary and secondary electric service to Red Gym</i>	<i>0.00 ls</i>	<i>/ls</i>	
Demolish temporary parking area lighting	1.00 ls	5,000.00 /ls	5,000
Re-route existing sports lighting circuits to avoid new field drainage	2.00 ls	31,500.00 /ls	63,000
Relocate press box and elevator feeders	1.00 ls	50,000.00 /ls	50,000
Relocate power for dugouts	0.00 ls	/ls	3,462
Remove existing underground telephone service	390.00 lf	5.00 /lf	1,950
Remove existing underground primary electric service	250.00 lf	10.00 /lf	2,500
Remove enabling primary electric service	1.00 ls	10,000.00 /ls	10,000
260505 Enabling Work for Electrical		/gsf	249,954
260526 Grounding and Bonding for Electrical Systems			
Building grounding & bonding	408,500.00 sf	0.11 /sf	44,302
Exterior (utility) transformer - grounding & bonding	2.00 ea	1,288.42 /ea	2,577
Exterior (sports lighting) transformer - grounding & bonding	1.00 ea	1,288.42 /ea	1,288
Primary switch - grounding & bonding	1.00 ea	1,288.42 /ea	1,288
Dry-type transformer grounding	30.00 ea	252.87 /ea	7,586



90% CD Estimate
MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
260526 Grounding and Bonding for Electrical Systems			
Copper ground bar - 2"x1/4" (ea.)	1.00 ea	336.48 /ea	336
Copper ground bar terminations	8.00 ea	89.12 /ea	713
Ground rods	4.00 ea	284.98 /ea	1,140
Bare copper wire - #6	50.00 lf	1.40 /lf	70
Bare copper wire - #2/0	250.00 lf	3.95 /lf	987
260526 Grounding and Bonding for Electrical Systems			/gsf
			60,288
260583 Equipment Wiring			
Feeder (PVC/CU) - 40A [EVC]	3,800.00 lf	8.93 /lf	33,941
Feeder (EMT/CU) - 60A	1,500.00 lf	16.76 /lf	25,140
Feeder (EMT/CU) - 100A	200.00 lf	23.15 /lf	4,630
Feeder (EMT/CU) - 400A	700.00 lf	81.46 /lf	57,023
Feeder (EMT/CU) - 800A	600.00 lf	151.94 /lf	91,166
Power (120V) for ATC panels	75.00 ea	516.37 /ea	38,728
Power (120V) for ATC panel	1.00 ea	516.37 /ea	516
Fused Disco: 20A, 240V/3P, NEMA-1 [Kitchen]	10.00 ea	380.94 /ea	3,809
Fused Disco: 20A, 240V/3P, NEMA-1 [MBL]	2.00 ea	380.94 /ea	762
Fused Disco: 60AF, 600V/3P, NEMA-1	1.00 ea	954.84 /ea	955
Fused Disco: 60A, 600V/3P, NEMA-3R	3.00 ea	1,152.07 /ea	3,456
Fused Disco: 100AF, 240V/3P, NEMA-1	2.00 ea	1,641.37 /ea	3,283
Fused Disco: 400A, 600V/3P, NEMA-3R	2.00 ea	2,892.32 /ea	5,785
Fused Disco: 600A, 600V/3P, NEMA-1	1.00 ea	3,127.33 /ea	3,127
Fused Disco: 800A, 600V/3P, NEMA-1	4.00 ea	6,262.35 /ea	25,049
Shot timer controls	1.00 ea	1,916.32 /ea	1,916
Power and low voltage control for motorized skylight shades (20' AFF)	7.00 ea	802.18 /ea	5,615
Power and low voltage control for motorized window shades (20' AFF)	48.00 ea	802.18 /ea	38,505
Kitchen kilns	4.00 ea	2,186.84 /ea	8,747
Motorized backstops and curtains	8.00 ea	2,634.08 /ea	21,073
Motorized backdrop	1.00 ea	2,634.08 /ea	2,634
Fire pump (150HP)	1.00 ea	6,443.68 /ea	6,444
Elevators and controllers	3.00 ea	5,197.20 /ea	15,592
Motor starters	26.00 ea	474.17 /ea	12,328
Install and wire VFD's (furnished by Division 23)	35.00 ea	1,040.92 /ea	36,432
Elevator cab lights / fan	3.00 ea	2,485.92 /ea	7,458
Misc. terminal equipment	408,500.00 sf	0.05 /sf	21,424
Cabinet unit heaters (hot water)	16.00 ea	816.20 /ea	13,059
Unit heaters (hot water)	12.00 ea	816.20 /ea	9,794
Unit ventilator (kiln)	1.00 ea	1,324.92 /ea	1,325
Unit heaters	2.00 ea	816.20 /ea	1,632
Electric unit wallheaters	5.00 ea	1,415.92 /ea	7,080
Fan powered boxes w/ 4-pipes	145.00 ea	1,014.44 /ea	147,094
Fan powered boxes w/ 2-pipes	32.00 ea	1,014.44 /ea	32,462
Radiant floor manifolds	5.00 ea	458.10 /ea	2,291
Elevator penthouse louvered vent	3.00 ea	1,541.38 /ea	4,624
Dust collector (4000cfm)	1.00 ea	6,197.20 /ea	6,197
VRF indoor units	150.00 ea	989.44 /ea	148,416
VRF outdoor units	21.00 ea	2,525.36 /ea	53,033
VRF branch circuit controllers	21.00 ea	682.96 /ea	14,342
Mini-split system indoor units	9.00 ea	1,076.44 /ea	9,688
Mini-split system outdoor units	2.00 ea	3,664.80 /ea	7,330
Hot water pumps (20hp)	10.00 ea	3,138.32 /ea	31,383
Chilled water pumps (20hp)	10.00 ea	3,138.32 /ea	31,383
Heat recovery condensing units	43.00 ea	5,197.20 /ea	223,480
Condensate pumps	263.00 ea	457.29 /ea	120,267
Glycol feed pumps	4.00 ea	1,485.92 /ea	5,944
Energy recovery units	4.00 ea	10,394.40 /ea	41,578
Kitchen HV unit	1.00 ea	10,394.40 /ea	10,394



90% CD Estimate
MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
260583 Equipment Wiring			
Heat recovery units	15.00 ea	10,394.40 /ea	155,916
VAV boxes w/ electric coils	78.00 ea	1,385.92 /ea	108,102
Electric water heaters (60A)	9.00 ea	2,721.84 /ea	24,497
Electric water heaters / point of service	26.00 ea	1,420.92 /ea	36,944
Electric water heater (60A)	1.00 ea	2,721.84 /ea	2,722
Air cooled chillers (176T)	2.00 ea	15,824.00 /ea	31,648
Exhaust fans	17.00 ea	2,228.88 /ea	37,891
Air cooled heat pumps (335T)	2.00 ea	19,788.80 /ea	39,578
Misc. exhaust fans	408,500.00 sf	0.05 /sf	20,423
Destratification fans	4.00 ea	1,360.92 /ea	5,444
Exhaust fans	2.00 ea	1,645.78 /ea	3,292
Sensor flush valves	156.00 ea	170.92 /ea	26,663
Temporary boilers and boiler pumps	2.00 ea	3,138.32 /ea	6,277
Electric boilers	2.00 ea	2,008.70 /ea	4,017
Temporary fuel oil pump	1.00 ea	3,264.80 /ea	3,265
Boiler circulation pumps	8.00 ea	1,453.92 /ea	11,631
Rental steam boilers	1.00 ls	5,697.20 /ls	5,697
Hot water heaters	4.00 ea	703.94 /ea	2,816
Electric hand dryers	3.00 ea	826.94 /ea	2,481
Electric water coolers	35.00 ea	608.10 /ea	21,284
Electric water cooler	1.00 ea	608.10 /ea	608
Recirculation pumps	6.00 ea	1,210.88 /ea	7,265
Duplex air compressor	1.00 ea	940.39 /ea	940
Acid neut. system	1.00 ea	1,909.41 /ea	1,909
260583 Equipment Wiring		/gsf	1,959,645
260923 Lighting Control Devices			
On-site programming & startup (manufacturer)	1.00 ls	14,859.20 /ls	14,859
Single pole switch (120/277V)	56.00 ea	80.18 /ea	4,490
Single pole switch (120/277V) - W.P.	2.00 ea	122.30 /ea	245
Low voltage switch	731.00 ea	178.16 /ea	130,232
Low voltage override switch	85.00 ea	224.64 /ea	19,094
Digital wall (scene) switch, 3-button	3.00 ea	249.56 /ea	749
Wall PIR occupancy sensor (24VDC)	21.00 ea	273.09 /ea	5,735
Wall PIR vacancy sensor (24VDC)	8.00 ea	273.09 /ea	2,185
Wall PIR occupancy sensor (24VDC)	2.00 ea	273.09 /ea	546
Ceiling US vacancy sensor (24VDC)	13.00 ea	350.37 /ea	4,555
Ceiling US occupancy sensor (24VDC)	1,129.00 ea	350.37 /ea	395,566
Occupancy sensor power pack (120V)	3.00 ea	89.95 /ea	270
Low voltage dimmer switch	121.00 ea	150.78 /ea	18,245
Light sensing photocell	169.00 ea	325.83 /ea	55,065
Digital dimming room controller, 3-relay - allowance (ea.)	350.00 allw	476.42 /allw	166,746
Emergency lighting transfer (bypass) device	109.00 ea	476.70 /ea	51,960
Emergency lighting transfer station controller ELTS	2.00 ea	2,117.70 /ea	4,235
Wireless network bridges	231.00 ea	300.00 /ea	69,300
Interface with BMS	1.00 ea	912.96 /ea	913
Lighting control racks	10.00 ea	1,451.96 /ea	14,520
Backfeed existing lighting control box	1.00 ea	4,971.84 /ea	4,972
Connect to main building networked lighting controls	1.00 ea	842.96 /ea	843
Lighting control panel, 8-relay	20.00 ea	2,904.00 /ea	58,080
Tie to main building lighting control system	1.00 ea	2,485.92 /ea	2,486
MC Cable (12/2) - 20A	17,430.00 lf	4.23 /lf	73,688
MC Cable (12/3) - 20A	1,450.00 lf	4.65 /lf	6,738
Digital lighting LV cable	7,500.00 lf	4.51 /lf	33,804
EMT (12/2) - 20A	1,050.00 lf	8.25 /lf	8,661
EMT (10/2) - 20A	3,270.00 lf	8.32 /lf	27,190
3-circuits in 3/4" EMT - 20A	500.00 lf	15.56 /lf	7,778



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
260923 Lighting Control Devices			
RJ45 Cable, 15LF (plenum-rated)	500.00 ea	86.50 /ea	43,251
260923 Lighting Control Devices		/gsf	1,227,001
262700 Distribution Equipment			
Normal power distribution equipment	408,500.00 sf	0.25 /sf	102,125
Short circuit / arc flash / selective coordination	1.00 ea	10,000.00 /ea	10,000
Backfeed existing lighting and power panel boards from Phase 1/4	1.00 ls	29,788.80 /ls	29,788
EV charging station service (125A)	1.00 ea	9,613.64 /ea	9,614
EV charging station service (200A)	1.00 ea	12,444.08 /ea	12,444
Enclosed circuit breaker: 225A/3P	1.00 ea	2,587.32 /ea	2,587
Electrical wireway - 12"x12"x36'L	42.00 ea	955.84 /ea	40,145
225A/3P enclosed C/B - 600V (N1)	2.00 ea	3,476.25 /ea	6,952
EPO / shut trip MCB for panelboards	22.00 ea	757.96 /ea	16,675
Multiple meter unit	19.00 ea	2,447.40 /ea	46,501
MSB-PVB1: 1200A	1.00 ea	26,444.90 /ea	26,445
MSB-OS2-CHE: 1200A	1.00 ea	26,444.90 /ea	26,445
MSB-SD-1B: 1600A	1.00 ea	30,484.40 /ea	30,484
MSB-1BBC: 2000A	1.00 ea	36,226.60 /ea	36,227
MSB-OS-1B: 2000A	1.00 ea	36,226.60 /ea	36,227
MSB-OS-E: 2500A	1.00 ea	42,474.00 /ea	42,474
MSB-OS-C: 2500A	1.00 ea	42,474.00 /ea	42,474
MSB-GEN: 2500A	1.00 ea	42,474.00 /ea	42,474
MSB-PV-SITE: 3000A, (12) 3-pole space	1.00 ea	48,553.00 /ea	48,553
MSB-PV-BLDG: 3000A, (12) 3-pole space	1.00 ea	48,553.00 /ea	48,553
MSB-A: 3000A, (12) 3-pole space	1.00 ea	48,553.00 /ea	48,553
MSB-B: 3000A, (12) 3-pole space	1.00 ea	48,553.00 /ea	48,553
MSB-OS-E: 3000A	1.00 ea	48,553.00 /ea	48,553
MSB-D: 3000A	1.00 ea	48,553.00 /ea	48,553
MSB-1BM: 4000A	1.00 ea	58,632.00 /ea	58,632
Panelboard - 100A	65.00 ea	3,021.84 /ea	196,420
Panelboard - 225A	45.00 ea	4,024.80 /ea	181,116
Panelboard: 225A	1.00 ea	4,024.80 /ea	4,025
Panelboard - 400A	5.00 ea	6,284.24 /ea	31,421
Distribution panel - 225A	4.00 ea	11,289.60 /ea	45,158
Distribution panel - 400A	38.00 ea	11,289.60 /ea	429,005
Distribution panel - 500A	1.00 ea	11,289.60 /ea	11,290
Distribution panel - 600A	8.00 ea	11,289.60 /ea	90,317
Distribution panel - 800A	3.00 ea	12,969.60 /ea	38,909
Distribution panel - 1000A	1.00 ea	12,969.60 /ea	12,970
Distribution panel - 1200A	3.00 ea	12,969.60 /ea	38,909
Transformer: floor/wall - 30kVA, 480V:208V	1.00 ea	2,778.88 /ea	2,779
Transformer: floor/wall - 45kVA, 480V:208V	7.00 ea	3,165.36 /ea	22,158
Transformer: floor/wall - 75kVA, 480V:208V	13.00 ea	4,769.80 /ea	62,007
Transformer: floor/wall - 112.5kVA, 480V:208V (for T6)	5.00 ea	6,249.00 /ea	31,245
Transformer: floor/wall - 150kVA, 480V:208V	1.00 ea	8,252.20 /ea	8,252
Transformer: floor - 225kVA, 480V:208V	3.00 ea	11,212.20 /ea	33,637
262700 Distribution Equipment		/gsf	2,149,648
262705 Distribution Feeders			
Mineral insulated (MI cable)	408,500.00 sf	0.25 /sf	102,125
Feeder (PVC/CU) - 400A	30.00 lf	60.16 /lf	1,805
Feeder (EMT/CU) - 15A [MMU's]	1,425.00 lf	8.82 /lf	12,567
Feeder (EMT/CU) - 125A	15.00 lf	24.52 /lf	368
Feeder (EMT/AL) - 100A	3,725.00 lf	21.16 /lf	78,813
Feeder (EMT/AL) - 125A	50.00 lf	24.73 /lf	1,236
Feeder (EMT/AL) - 225A	4,900.00 lf	47.75 /lf	233,949



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
262705 Distribution Feeders			
Feeder (EMT/AL) - 400A	2,525.00 lf	69.50 /lf	175,497
Feeder (EMT/AL) - 600A	2,700.00 lf	109.75 /lf	296,313
Feeder (EMT/AL) - 800A	1,000.00 lf	156.40 /lf	156,399
Feeder (EMT/AL) - 2000A	70.00 lf	433.32 /lf	30,332
Feeder (EMT/AL) - 3000A	70.00 lf	508.73 /lf	35,611
Feeder (EMT/AL) - 4000A	70.00 lf	593.27 /lf	41,529
Empty conduit (EMT): 1.25" [metering]	1,000.00 lf	8.44 /lf	8,436
Empty conduit (sch 40 PVC) - 2 x 3"	1,300.00 lf	29.32 /lf	38,112
Feeder (MC) - 50A	40.00 lf	7.48 /lf	299
Feeder (MC) - 80A	20.00 lf	9.23 /lf	185
Feeder (MC) - 100A	40.00 lf	12.17 /lf	487
Feeder (MC) - 125A	100.00 lf	13.81 /lf	1,381
Feeder (MC) - 150A	20.00 lf	20.85 /lf	417
Feeder (MC) - 175A	40.00 lf	28.52 /lf	1,141
Feeder (MC) - 225A	100.00 lf	37.38 /lf	3,738
Feeder (MC) - 175A	40.00 lf	28.52 /lf	1,141
Feeder (MC) - 225A	20.00 lf	37.38 /lf	748
Feeder (MC) - 175A	80.00 lf	28.52 /lf	2,282
Feeder (MC) - 225A	10.00 lf	37.38 /lf	374
Feeder (MC) - 400A	240.00 lf	65.69 /lf	15,766
Feeder (MC) - 600A	60.00 lf	92.87 /lf	5,572
Feeder (MC) - 800A	40.00 lf	123.19 /lf	4,927
262705 Distribution Feeders		/gsf	1,251,551
262726 Wiring Devices			
MC Cable (12/2) - 20A	46,800.00 lf	4.23 /lf	197,853
MC Cable (10/2) - 20A [cord reels]	6,675.00 lf	5.21 /lf	34,770
MC Cable (10/2) - 20A [floor boxes]	5,900.00 lf	5.21 /lf	30,733
MC Cable (10/4) - 30A	3,500.00 lf	5.60 /lf	19,587
MC Cable (6/4) - 30A	1,800.00 lf	7.45 /lf	13,417
Isolated Ground MC Cable (12/2) - 20A	900.00 lf	4.07 /lf	3,660
EMT (12/2) - 20A	8,250.00 lf	8.25 /lf	68,050
EMT (10/2) - 30A [floor boxes under deck]	1,180.00 lf	8.58 /lf	10,120
Duplex receptacle - 20A	1,049.00 ea	83.25 /ea	87,329
Duplex receptacle - 20A - controlled	1,110.00 ea	101.74 /ea	112,926
Duplex receptacle - 20A - GFCI	856.00 ea	110.24 /ea	94,366
Duplex receptacle - 20A - GFCI - W.P.	3.00 ea	151.54 /ea	455
Quadruplex receptacle - 20A	58.00 ea	114.89 /ea	6,664
Quadruplex receptacle - 20A - controlled	513.00 ea	133.38 /ea	68,423
Duplex receptacle - 20A - USB	9.00 ea	99.44 /ea	895
Twist-lock receptacle - 20A - L5-20R	12.00 ea	86.24 /ea	1,035
Twist-lock receptacle - 20A - L6-20R	1.00 ea	87.15 /ea	87
Special receptacle - 30A	35.00 ea	115.60 /ea	4,046
Special receptacle - 50A	18.00 ea	151.62 /ea	2,729
Floor box - 2 gang outlet/data	59.00 ea	996.72 /ea	58,806
Power junction w/feed (MC) - 20A (FA)	1.00 ea	261.37 /ea	261
Power junction w/feed (MC) - 20A [misc.]	320.00 ea	396.48 /ea	126,874
Trash compactor feed & connection	1.00 ea	2,715.08 /ea	2,715
Emergency power off (EPO)	25.00 ea	357.35 /ea	8,934
Pull box - 18"x18" x6"	21.00 ea	753.71 /ea	15,828
Pull boxes - 40"x40"x24"	6.00 ea	1,330.49 /ea	7,983
Cord reel (20A) w/ duplex receptacle	89.00 ea	337.52 /ea	30,039
262726 Wiring Devices		/gsf	1,008,586
263200 Packaged Generator Assemblies			
Diesel generator: 2000kW, 2500kVA, 277/480V	1.00 ea	647,699.73 /ea	647,700



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
263200 Packaged Generator Assemblies			
Generator grounding	1.00 ea	989.44 /ea	989
Generator testing & start-up	1.00 ea	14,929.60 /ea	14,930
Generator setting & rigging (grade level)	1.00 ea	36,971.84 /ea	36,972
Sound attenuated, non-walk-in weatherproof enclosure	1.00 ea	72,894.40 /ea	72,894
Starting circuit - 2#14 MI cable (4" PVC)	75.00 lf	14.02 /lf	1,051
Remote annunciator panel - 16#14 (4" PVC)	100.00 lf	18.47 /lf	1,847
Generator EPO and wiring	2.00 ea	581.34 /ea	1,163
Camlock connection box	1.00 ea	1,938.03 /ea	1,938
263200 Packaged Generator Assemblies		/gsf	779,484
263600 Transfer Switches			
ATS-LRS: 400A, 480V/3P w/ iso by-pass	1.00 ea	20,270.07 /ea	20,270
ATS-E: 400A, 480V/3P w/ iso by-pass	1.00 ea	20,270.07 /ea	20,270
ATS-OS-C: 3000A, 480V/3P w/ iso by-pass	1.00 ea	146,094.40 /ea	146,094
ATS-OS-E: 3000A, 480V/3P w/ iso by-pass	1.00 ea	146,094.40 /ea	146,094
MTS - no iso by-pass - open trans - 400A	1.00 ea	3,523.95 /ea	3,524
Wire fire pump controller (furnished and installed by Div. 21)	1.00 ea	2,964.80 /ea	2,965
263600 Transfer Switches		/gsf	339,218
264000 Lightning Protection			
Lightning protection system	1.00 ls	175,000.00 /ls	175,000
264000 Lightning Protection		/gsf	175,000
265000 Lighting			
XCS1: white face green letters thermoplastic exit sign [B]	7.00 ea	143.80 /ea	1,007
XRC1: edge-lit green LED exit sign [B]	94.00 ea	205.48 /ea	19,315
XRC2: edge-lit green LED exit sign [B]	37.00 ea	219.70 /ea	8,129
XRC3: edge-lit green LED exit sign [B]	5.00 ea	205.49 /ea	1,027
XRC4: edge-lit green LED exit sign [B]	15.00 ea	205.48 /ea	3,082
XRC5: edge-lit green LED exit sign [B]	1.00 ea	219.71 /ea	220
XWS1: edge-lit green LED exit sign [B]	43.00 ea	219.71 /ea	9,447
XWS2: white face green letters die cast aluminum exit sign [B]	17.00 ea	223.45 /ea	3,799
XWS3: white face green letters wet label vandal resistant exit sign [B]	5.00 ea	415.93 /ea	2,080
XWS4: white face green letters wet label vandal resistant exit sign [B]	12.00 ea	415.94 /ea	4,991
XWS5: edge-lit green LED exit sign [B]	7.00 ea	216.16 /ea	1,513
XWS6: black face green letters die cast aluminum exit sign [B]	2.00 ea	146.85 /ea	294
XWS7: master/remote white face green letters exit sign [B]	2.00 ea	256.97 /ea	514
PC01 - LED Direct/Indirect pendant [B]	6,106.00 lf	119.10 /lf	727,225
PC02 - LED Direct/Indirect pendant [B]	1,398.00 lf	147.55 /lf	206,275
PC1B - 14" diameter fixture [B]	28.00 lf	153.33 /lf	4,293
RW01 - downlight [C]	47.00 ea	600.73 /ea	28,234
PC04 - 4' LED Utility Strip [B]	44.00 ea	163.65 /ea	7,201
PC04A - 4' LED Utility Strip [B]	68.00 ea	183.30 /ea	12,464
PC05 - 4' Ring Pendant [B]	7.00 ea	1,960.41 /ea	13,723
PC06 - 6' Ring Pendant [B]	19.00 ea	2,611.42 /ea	49,617
PC07 - Jelly Jar [B]	36.00 ea	369.07 /ea	13,287
PC08 - 8' LED Utility Strip With Lens [B]	37.00 ea	266.62 /ea	9,865
Continuous LED	106.00 lf	553.75 /lf	58,697
PC10 - 2' Diameter Ring Pendant [B]	14.00 ea	5,153.10 /ea	72,143
RC55 - downlight [B]	6.00 ea	265.86 /ea	1,595
PC12 - 12' Diameter Ring Pendant [B]	2.00 ea	4,044.07 /ea	8,088
PC14T - downlight [C]	16.00 ea	709.63 /ea	11,354
PC14 - 6" Diameter Pendant Cylinder [B]	26.00 ea	538.24 /ea	13,994
PC15 - 8' Diameter Ring Pendant [C]	3.00 ea	5,864.36 /ea	17,593
PC16 - Direct/Indirect Pendant [B]	1,649.00 lf	139.03 /lf	229,260
PC38 [B]	4.00 ea	740.92 /ea	2,964



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
265000 Lighting			
Type PC34 T- suspended linear LED strip	207.00 lf	791.78 /lf	163,898
PC13	46.00 ea	791.78 /ea	36,422
PC23 [B]	6.00 ea	768.09 /ea	4,609
PC19 - Linear Acoustic Lighted Baffle	1,520.00 lf	95.57 /lf	145,266
PC20 - Pendant Whiteboard Wall Washer	185.00 lf	147.68 /lf	27,321
PC22 - New Auditorium Downlight Can	46.00 ea	613.69 /ea	28,230
PC24 - Linear Forward Throw Indirect Pendant	253.00 lf	126.48 /lf	31,999
PC25 - Small Decorative Glass Pendant [B]	23.00 ea	766.39 /ea	17,627
PC31 [B]	8.00 ea	503.98 /ea	4,032
PC27 - 3' Diameter Ring Pendant [C]	3.00 ea	1,847.32 /ea	5,542
PC29 - Melissa's New Teardrop D-Lab Pendant [B]	13.00 ea	483.19 /ea	6,281
PC30 - Reception Desk Pendant [B]	4.00 ea	665.35 /ea	2,661
PC31 - 6" Diameter Pendant Cylinder [B]	91.00 ea	608.50 /ea	55,373
PC36 [B]	279.00 lf	266.91 /lf	74,468
PC33 [B]	1.00 ea	991.90 /ea	992
RB03 - Tunable LED Segmented Curvable LED Cove [B]	1,325.00 lf	88.34 /lf	117,051
RB06 [B]	98.00 lf	227.77 /lf	22,321
RB07 [B]	136.00 lf	231.07 /lf	31,426
PC35 [B]	151.00 lf	234.14 /lf	35,355
RB09 - 1" Wide extrusion [B]	92.00 lf	172.76 /lf	15,894
RB09T - 1" Wide extrusion [B]	17.00 lf	172.76 /lf	2,937
RB04 [B]	168.00 lf	138.61 /lf	23,287
RB11 - 12" RGBW Modules [B]	25.00 ea	376.26 /ea	9,406
RB13 - Opal Lens Upright 1"x1" Extrusion [B]	34.00 lf	161.37 /lf	5,487
RB16 [C]	111.00 lf	152.87 /lf	16,969
RB16T - LED Strip in channel [B]	410.00 lf	94.97 /lf	38,938
RB17T [B]	152.00 lf	186.49 /lf	28,347
RC01 - 6-8" Diameter Lensed Downlight [B]	38.00 ea	180.27 /ea	6,850
RC02 - Wet Label Lensed Downlight [B]	35.00 ea	244.77 /ea	8,567
RC04 - 4" Diameter LED Recessed Dome [C]	13.00 ea	1,120.46 /ea	14,566
RB08 - sconce [C]	6.00 ea	155.63 /ea	934
RC03 [C]	4.00 ea	234.18 /ea	937
RC05 - 4" Wide LED Lensed ceiling slot [B]	3,631.00 lf	88.83 /lf	322,542
RC06 - LED Recessed Wall Slot [B]	426.00 lf	94.97 /lf	40,457
RC07 - 4" Wide LED Lensed ceiling slot [B]	88.00 lf	117.29 /lf	10,322
RC09 - 8" Dia Recessed LED Downlight [B]	31.00 ea	143.41 /ea	4,446
RC13 - Recessed Downlight [B]	31.00 ea	381.78 /ea	11,835
RC14 - LED 2'x4' Flat Panel [B]	158.00 ea	189.44 /ea	29,931
RC15 - LED Kitchen Troffer [B]	35.00 ea	504.86 /ea	17,670
RC16 - Recessed Shower Light [B]	19.00 ea	308.49 /ea	5,861
RC17 - LED Lensed Downlight [B]	143.00 ea	353.07 /ea	50,489
RC19 [C]	8.00 ea	337.88 /ea	2,703
RC22 - Arch LED 2x2 [B]	42.00 ea	216.95 /ea	9,112
RC23 - Wall Washer [B]	19.00 ea	320.36 /ea	6,087
RC24 - Arch LED 2x4 [B]	201.00 ea	220.75 /ea	44,371
RC27T - Wall Washer [B]	49.00 ea	410.49 /ea	20,114
RC28 - Aperture Downlight [B]	23.00 ea	260.60 /ea	5,994
RC29 - LED Edgelit Disk [B]	2.00 ea	160.07 /ea	320
RC31 - LED Damp Surface 1x4 [B]	16.00 ea	481.65 /ea	7,706
RC56 [B]	107.00 ea	219.84 /ea	23,523
RC17T - downlight [B]	45.00 ea	411.33 /ea	18,510
RC58 [B]	5.00 ea	219.83 /ea	1,099
RC59 [C]	2.00 ea	219.84 /ea	440
RC57 [B]	43.00 ea	175.25 /ea	7,536
RC32 - Recessed LED 2x2' Troffer [B]	45.00 ea	207.48 /ea	9,337
RC34 - Recessed LED 2x4' Troffer [B]	131.00 ea	211.27 /ea	27,676
RC42 - Linear LED Wallwasher [B]	33.00 ea	252.99 /ea	8,349
RC44 - 4' Wall Washer [B]	35.00 ea	333.09 /ea	11,658



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
265000 Lighting			
RC52 - LED 2x2 [B]	23.00 ea	128.18 /ea	2,948
RC54 - LED 2x4 [B]	150.00 ea	149.99 /ea	22,499
RW02 - LED Shielded Steplight [B]	26.00 ea	539.96 /ea	14,039
SC18 - 96" Wraparound stair light [B]	43.00 ea	407.37 /ea	17,517
SC18P - 96" Wraparound stair light [B]	13.00 ea	414.96 /ea	5,394
SC01 - LED lighting [C]	4.00 lf	309.34 /lf	1,237
SC04 - LED Utility Strip [B]	4.00 lf	175.19 /lf	701
SW02 [C]	2.00 ea	546.55 /ea	1,093
SW04 - Blue Running Light Dome [B]	162.00 ea	282.15 /ea	45,708
SW06 - Throw Scoop [B]	4.00 ea	1,849.42 /ea	7,398
SW07 - Sidemount Downlight Cylinder [B]	3.00 ea	468.02 /ea	1,404
SW10 - Indirect Wall Bracket Can [B]	5.00 ea	786.84 /ea	3,934
SW11 - Wall Mounted Jelly Jar [B]	8.00 ea	289.77 /ea	2,318
SC03 [C]	6.00 ea	600.73 /ea	3,604
SC08 [C]	146.00 lf	220.86 /lf	32,246
SW03 - Shovelnose Egress Light [B]	21.00 ea	574.34 /ea	12,061
SC14 [C]	8.00 lf	508.32 /lf	4,067
SW06T [B]	18.00 ea	2,069.44 /ea	37,250
TM01 - Track Mounted Accent Light [B]	35.00 ea	635.06 /ea	22,227
TR01 - Surface Track [B]	400.00 lf	50.57 /lf	20,228
TR03 [B]	69.00 lf	80.30 /lf	5,541
UC01 - LED Tape [B]	1,365.00 lf	70.02 /lf	95,577
UC01 0-10V dimming driver [B]	55.00 ea	201.53 /ea	11,084
RB06 - 800LM/FT LED segmented louvered DNLT LED cove light [B]	98.00 lf	227.35 /lf	22,280
RB07 - 800LM/FT LED segmented louvered LED cove light [B]	136.00 lf	227.35 /lf	30,920
SW09 - 6500LM/FT Type IV wall mounted single fixture, 4' length [B]	32.00 ea	478.06 /ea	15,298
TE01: tension catenary cable with full cutoff LED [B]	341.00 lf	53.68 /lf	18,305
TE01: tension catenary cable drivers	8.00 ea	703.91 /ea	5,631
SC04 - 4' linear	11.00 ea	255.65 /ea	2,812
Emergency battery unit, dual head	4.00 ea	343.76 /ea	1,375
MC Cable (12/2) - 20A	300.00 lf	4.14 /lf	1,243
MC Cable (12/3) - 20A (emergency)	18,000.00 lf	4.07 /lf	73,247
EMT (12/2) - 20A	75.00 lf	8.08 /lf	606
EMT (12/3) - 20A (emergency)	6,000.00 lf	7.19 /lf	43,162
265000 Lighting		/gsf	3,810,324

265010 Theatrical Lighting and Control

Auditorium theatrical light fixtures & Dimming - procurement	1.00 allw	400,000.00 /allw	400,000
Black Box theatrical light fixtures & Dimming - procurement	1.00 allw	150,000.00 /allw	150,000
<i>Amphitheater theatrical light fixtures - specialty testing, connections and installation</i>	<i>0.00 allw</i>	<i>/allw</i>	
Auditorium theatrical light fixtures - wiring (300 man hours)	1.00 allw	49,840.62 /allw	49,841
Black Box theatrical light fixtures - wiring (125 man hours)	1.00 allw	20,699.15 /allw	20,699
<i>Amphitheater theatrical light fixtures - wiring (200 man hours)</i>	<i>0.00 allw</i>	<i>/allw</i>	
Auditorium theatrical light fixtures - conduit pathways	1.00 allw	20,660.99 /allw	20,661
Blackbox theatrical light fixtures - conduit pathways	1.00 allw	7,783.88 /allw	7,784
<i>Amphitheater theatrical light fixtures - conduit pathways</i>	<i>0.00 allw</i>	<i>/allw</i>	
Architectural control processor	1.00 ea	3,001.48 /ea	3,001
Box with pigtail, DMX output	6.00 ea	399.04 /ea	2,394
Box with pigtail, DMX output, ethernet	47.00 ea	411.24 /ea	19,328
Box with pigtail, DMX output, ethernet	11.00 ea	679.56 /ea	7,475
Box with pigtail, ethernet	13.00 ea	411.24 /ea	5,346
Box with receptacle, DMX output	2.00 ea	933.10 /ea	1,866
Box with receptacle, DMX output, ethernet	30.00 ea	679.56 /ea	20,387
Box with receptacle and ethernet	17.00 ea	411.24 /ea	6,991
Box with receptacle, DMX output, ethernet	4.00 ea	962.15 /ea	3,849
Control console connection	1.00 ea	596.48 /ea	596



90% CD Estimate

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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
265010 Theatrical Lighting and Control			
Floor box control plug-in	3.00 ea	596.48 /ea	1,789
DMX output gateway, 8-port	4.00 ea	3,887.92 /ea	15,552
Entry panel	5.00 ea	3,980.88 /ea	19,904
Ethernet switch	1.00 ea	1,862.85 /ea	1,863
Floor box panel	2.00 ea	1,502.82 /ea	3,006
Theatrical lighting control rack	1.00 ea	1,604.05 /ea	1,604
A/V power panel	2.00 ea	3,485.92 /ea	6,972
Connector strip with pigtails, DMX output, ethernet	4.00 ea	679.30 /ea	2,717
Touch panel	1.00 ea	444.05 /ea	444
WL1 - Work light control panel	5.00 ea	2,589.44 /ea	12,947
WL2 - Work light control panel	2.00 ea	2,589.44 /ea	5,179
265010 Theatrical Lighting and Control		/gsf	792,196
270001 Voice/Data/CATV			
Horizontal j-hook cable management system	408,500.00 sf	0.16 /sf	66,177
Ceiling backbox (1-gang)	340.00 ea	41.20 /ea	14,006
Wall backbox (1-gang) w/ 1" EMT above ceiling	919.00 ea	90.22 /ea	82,913
Plywood backboard - 3/4" w/ fire retardant paint	135.00 lf	79.77 /lf	10,768
Cable tray - 12"W x 4"	290.00 lf	46.57 /lf	13,504
Empty conduit (EMT): 2 x 4"	20.00 lf	41.29 /lf	826
Empty conduit (EMT): 3 x 4"	325.00 lf	62.36 /lf	20,268
Empty conduit (EMT): 4 x 4"	300.00 lf	82.76 /lf	24,829
Empty conduit (EMT): 6 x 4"	350.00 lf	119.56 /lf	41,846
Copper ground bar w/isolators - 2"x1/4"	14.00 ea	238.90 /ea	3,345
Conduit sleeve w/ fireproofing - 4"	116.00 ea	172.10 /ea	19,964
Data outlet - (1) CAT-6A cable	60.00 ea	226.77 /ea	13,606
Telephone outlet - (1) CAT-6A cable	170.00 ea	226.77 /ea	38,551
Data outlet - (1) CAT-6A cable [TV]	130.00 ea	226.77 /ea	29,480
Data outlet - (1) CAT-6A cable [CAM]	5.00 ea	226.77 /ea	1,134
Data outlet - (2) CAT-6A cables	528.00 ea	399.59 /ea	210,984
Data outlet - (6) CAT-6A cables	1.00 ea	908.22 /ea	908
Data outlet - (4) CAT-6A cables	18.00 ea	720.33 /ea	12,966
Data outlet - (8) CAT-6A cables	7.00 ea	1,229.00 /ea	8,603
WAP location: (2) CAT-6A cables (WAP's by Owner)	340.00 ea	428.64 /ea	145,738
TV outlet - (1) RG-6 cable	130.00 ea	212.90 /ea	27,677
Backbone copper cable - 25 pair CAT-6 (plenum)	2,800.00 lf	3.26 /lf	9,127
Backbone fiber optic cable - 24 strand MM (plenum)	2,800.00 lf	9.05 /lf	25,340
2-post full height rack	25.00 ea	701.10 /ea	17,528
4-post full height rack	3.00 ea	1,005.06 /ea	3,015
Vertical cable wire manager	41.00 ea	269.76 /ea	11,060
Horizontal cable wire manager	28.00 ea	68.73 /ea	1,925
Copper patch panel: 48-port	56.00 ea	672.20 /ea	37,643
Fiber optic patch panel: 24-port	28.00 ea	487.63 /ea	13,654
Fiber optic patch panel: 24-port (for PA)	1.00 ea	487.63 /ea	488
Network switch - 24 port	2.00 ea	4,604.03 /ea	9,208
270001 Voice/Data/CATV		/gsf	917,081
275000 Public Address			
Ceiling backbox (1-gang)	132.00 ea	50.86 /ea	6,713
Volume control	75.00 ea	151.61 /ea	11,370
Power supply (24) units - speakers 24V DC	6.00 ea	1,609.88 /ea	9,659
Battery back up system	1.00 ea	213.82 /ea	214
Surface mounted loudspeakers	8.00 ea	756.18 /ea	6,049
Ceiling mounted speakers - JBL control 26CT speakers	119.00 ea	471.02 /ea	56,051
Ceiling mounted speakers - JBL control 47HC	5.00 ea	669.83 /ea	3,349
Passive-flush in-ceiling subwoofers	2.00 ea	1,549.88 /ea	3,100



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
275000 Public Address			
Equipment rack	1.00 ea	457.41 /ea	457
PA console	1.00 ea	15,149.76 /ea	15,150
Page control - 24 zones	2.00 ea	3,039.52 /ea	6,079
Public address wiring (EMT)	2,500.00 lf	7.44 /lf	18,589
Speaker wiring (plenum)	27,200.00 lf	3.05 /lf	82,881
Public address wiring (plenum)	10,050.00 lf	2.60 /lf	26,124
PA equipment power connection - 120V	3.00 ea	269.94 /ea	810
Public address system testing	1.00 ea	2,089.07 /ea	2,089
275000 Public Address		/gsf	248,686
275119 Video Intercom			
Intercom sub-station	6.00 ea	1,512.34 /ea	9,074
Arch Control Processor	1.00 ea	4,664.24 /ea	4,664
Intercom master-station	5.00 ea	5,853.90 /ea	29,270
Intercom wiring (EMT)	1,500.00 lf	10.46 /lf	15,695
275119 Video Intercom		/gsf	58,703
275126 Assistive Listening			
Speech amplification ceiling speakers	524.00 ea	190.47 /ea	99,804
Speech amplification system control panel	131.00 ea	689.64 /ea	90,342
Speech amplification system wireless receiver	131.00 ea	405.04 /ea	53,060
Speech amplification system power amplifier	131.00 ea	672.74 /ea	88,128
Speaker wiring (plenum)	15,720.00 lf	1.95 /lf	30,666
<i>Reconciliation adjustment to \$362,000 total value</i>		<i>0.00 ls</i>	<i>/ls</i>
275126 Assistive Listening		/gsf	362,000
275129 Emergency Communication / Area of Rescue			
Area of rescue assistance stations	20.00 loc	3,000.00 /loc	60,000
275129 Emergency Communication / Area of Rescue		/gsf	60,000
275300 Master Clock System			
Exterior building mounted clock - allowance (ea.)	1.00 ls	50,000.00 /ls	50,000
Single face clock	211.00 ea	293.46 /ea	61,921
Master clock	1.00 ea	4,012.35 /ea	4,012
Signal generator	1.00 ea	3,284.26 /ea	3,284
Control board	1.00 ea	843.23 /ea	843
Clock back box w/ receptacle	211.00 ea	213.58 /ea	45,066
Clock wiring (plenum)	15,825.00 lf	3.43 /lf	54,342
Master clock programming and testing	1.00 ls	9,098.80 /ls	9,099
275300 Master Clock System		/gsf	228,567
281000 Integrated Security System			
High/low temperature sensors (Allowance)	408,500.00 sf	0.10 /sf	40,850
On-floor water sensor and processor (Allowance)	408,500.00 sf	0.10 /sf	40,850
Backboxes, conduits, and 120V power for access control / intrusion	408,500.00 sf	0.30 /sf	122,501
Card reader	27.00 ea	921.00 /ea	24,867
Magnetic switch	40.00 ea	322.60 /ea	12,904
Electric latch retraction panic hardware	58.00 ea	322.60 /ea	18,711
Magnetic lock - single door	2.00 ea	714.60 /ea	1,429
Electric strike	1.00 ea	439.66 /ea	440
Door release button / push to exit	21.00 ea	221.25 /ea	4,646
24V power supply	17.00 ea	321.30 /ea	5,462
24V power supply - video intercom	1.00 ea	321.30 /ea	321



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
281000 Integrated Security System			
Junction box - 6"x6"x4"	21.00 ea	146.30 /ea	3,072
Electric Trim	12.00 ea	411.89 /ea	4,943
Digital keypad	4.00 ea	1,071.73 /ea	4,287
Ultrasonic motion detector	52.00 ea	659.55 /ea	34,297
Curtain motion detector	14.00 ea	659.55 /ea	9,234
Security siren	1.00 ea	397.60 /ea	398
Door release button	3.00 ea	322.43 /ea	967
Local door alarm	4.00 ea	472.43 /ea	1,890
Access control / intrusion head end panels and equipment	1.00 ls	64,999.99 /ls	65,000
Intrusion detection controller/communicator	10.00 ea	1,644.78 /ea	16,448
Security wiring (EMT)	6,500.00 lf	9.71 /lf	63,142
Empty Conduit (EMT): 3/4"	1,800.00 lf	5.74 /lf	10,326
Power junction - 120V/20A	20.00 ea	215.82 /ea	4,316
Access control system programming & testing	1.00 ea	11,952.00 /ea	11,952
281000 Integrated Security System		/gsf	503,252
281010 Shooting Detection Sensors			
Shooting detection sensor	95.00 ea	2,000.00 /ea	190,000
281010 Shooting Detection Sensors		/gsf	190,000
282000 Video Surveillance			
Backboxes, conduits, and 120V power for video surveillance	408,500.00 sf	0.15 /sf	61,275
Fixed interior camera - 180 deg	9.00 ea	964.78 /ea	8,683
Fixed interior camera - 360 deg	52.00 ea	1,139.78 /ea	59,269
Fixed interior camera	56.00 ea	1,178.25 /ea	65,982
Network recorder	1.00 ea	3,390.40 /ea	3,390
Network switcher	1.00 ea	2,167.80 /ea	2,168
Video surveillance cable (plenum)	13,700.00 lf	4.56 /lf	62,489
Video surveillance head end monitors, controllers, equipment	1.00 ls	47,500.05 /ls	47,500
Video surveillance system software & licensing	1.00 ea	4,390.40 /ea	4,390
Video surveillance system programming & testing	1.00 ea	5,652.00 /ea	5,652
282000 Video Surveillance		/gsf	320,798
284620 Fire Detection and Alarm			
Wire elevator status panel	1.00 ea	850.68 /ea	851
Manual pull station	85.00 ea	198.56 /ea	16,877
Add for weatherproofing	4.00 ea	95.09 /ea	380
Manual pull station	1.00 ea	198.57 /ea	199
Smoke detector	327.00 ea	217.83 /ea	71,231
Smoke detector	1.00 ea	217.85 /ea	218
Heat detector	4.00 ea	217.85 /ea	871
Carbon monoxide detector (w/ monitor module)	36.00 ea	364.50 /ea	13,122
Duct smoke detectors (furnish & wire)	21.00 ea	817.64 /ea	17,170
Remote indicating light	51.00 ea	132.26 /ea	6,745
Remote indicating light	1.00 ea	132.27 /ea	132
Control module	51.00 ea	260.93 /ea	13,308
Addressable monitor module	11.00 ea	159.15 /ea	1,751
Addressable monitor module	2.00 ea	167.56 /ea	335
Addressable relay module	4.00 ea	225.15 /ea	901
Tamper switch connection (via monitor module)	23.00 ea	588.85 /ea	13,544
Flow switch connection (via monitor module)	23.00 ea	424.68 /ea	9,768
Flow switch connection (via monitor module)	2.00 ea	424.68 /ea	849
Post indicating valve connection (via monitor module)	3.00 ea	466.95 /ea	1,401
Pressure switch connection (via monitor module)	2.00 ea	466.95 /ea	934
Door hold device (magnetic)	93.00 ea	372.32 /ea	34,626
Wire combination fire/smoke dampers (SLC)	55.00 ea	629.60 /ea	34,628



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
284620 Fire Detection and Alarm			
Speaker only - wall	5.00 ea	147.13 /ea	736
Strobe only - ceiling	215.00 ea	177.55 /ea	38,174
Strobe only	2.00 ea	177.57 /ea	355
Speaker/strobe - wall	53.00 ea	244.21 /ea	12,943
Speaker/strobe - wall	2.00 ea	244.22 /ea	488
Speaker/strobe - ceiling	509.00 ea	244.21 /ea	124,301
Exterior beacon (weatherproof)	4.00 ea	388.06 /ea	1,552
Exterior beacon (weatherproof)	1.00 ea	388.06 /ea	388
Wire 120V sprinkler bell	1.00 ea	208.76 /ea	209
Fire alarm transponder panel	15.00 ea	2,274.68 /ea	34,120
Fire alarm network node	1.00 ea	918.77 /ea	919
Battery backup cabinet	1.00 ea	1,476.36 /ea	1,476
Battery backup cabinet	1.00 ea	715.68 /ea	716
Fire alarm annunciator	2.00 ea	6,102.72 /ea	12,205
Fire alarm graphic annunciator	1.00 ea	6,102.72 /ea	6,103
FACP (2-5 zone)	1.00 ea	1,898.99 /ea	1,899
FACP	3.00 ea	11,203.74 /ea	33,611
Terminal equipment	1.00 ls	10,756.80 /ls	10,757
Head end panels and terminal equipment	1.00 ls	31,499.99 /ls	31,500
Masterbox	1.00 ea	4,086.36 /ea	4,086
Key (Knox) box	4.00 ea	785.34 /ea	3,141
Fire alarm command center	1.00 ea	57,020.40 /ea	57,020
Fire pump/jockey pump fire alarm connection	1.00 ea	3,124.66 /ea	3,125
Backfeed existing fire alarm equipment from FACP in Phase 1	1.00 ls	19,538.79 /ls	19,539
Tie to main FACP	1.00 ea	935.60 /ea	936
Tie to BMS	1.00 ea	985.68 /ea	986
Fire alarm system testing	1.00 ls	13,006.80 /ls	13,007
Fire alarm system testing	1.00 ls	2,401.02 /ls	2,401
Fire alarm system programming	801.00 ea	20.03 /ea	16,047
MC Cable (FA) - #14-4/c	25,000.00 lf	3.96 /lf	98,879
MC Cable (FA) - #16-2/c	21,600.00 lf	2.94 /lf	63,394
EMT (red) - 3/4" C w/ #16-2/c	10,550.00 lf	7.31 /lf	77,075
EMT (red) - 3/4" C w/ #14-4/c	9,725.00 lf	8.06 /lf	78,371
Circuit integrity cabling (CIC)	2,500.00 lf	18.72 /lf	46,796
Ductbank w/ IMSA cable - 2" PVC	250.00 lf	16.60 /lf	4,150
284620 Fire Detection and Alarm		/gsf	1,041,245
284624 Bi-Directional Amplifier (BDA)			
Furnish controller, antennas, cabling, components (dual-frequency)	408,500.00 sf	0.40 /sf	163,400
Installation of BDA system	408,500.00 sf	0.07 /sf	30,311
Minor material for BDA system	408,500.00 sf	0.15 /sf	61,275
284624 Bi-Directional Amplifier (BDA)		/gsf	254,986
D50 Electrical			
D50 Electrical	408,500.00 gsf	47.57 /gsf	19,433,600
D50 Electrical Systems			
D50 Electrical Systems	408,500.00 gsf	47.57 /gsf	19,433,600
D Services			
D Services	408,500.00 gsf	139.51 /gsf	56,987,920
E Equipment & Furnishings			
E10 Equipment			



90% CD Estimate

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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
E10 Equipment General			
110610 Theatrical Equipment			
Theater rigging and curtains per quote from High Output	1.00 ls	500,693.00 /ls	500,693
Retractable acoustic panels on stage	1.00 ls	138,520.00 /ls	138,520
110610 Theatrical Equipment			
		/gsf	639,213
110680 Portable Platforms and Seating			
Stage extension - per quote from Walker	1.00 ls	129,920.00 /ls	129,920
<i>Portable platform at black box</i>	0.00 ls	0.00 /ls	0
110680 Portable Platforms and Seating			
	434,320.00 gsf	0.30 /gsf	129,920
111300 Loading Dock Equipment			
Loading dock eqp	1.00 ls	5,000.00 /ls	5,000
111300 Loading Dock Equipment			
		/ls	5,000
114000 Food Service Equipment			
1 - Walk-in cooler/freezer	1.00 ea	91,505.07 /ea	91,505
6 - Mobile walk-in shelving	16.00 ea	491.73 /ea	7,868
7 - Mobile walk-in shelving	3.00 ea	470.64 /ea	1,412
8 - Mobile walk-in shelving	4.00 ea	543.90 /ea	2,176
9 - Mobile dry storage shelving	14.00 ea	491.73 /ea	6,884
11 - Mobile dry storage shelving	1.00 ea	470.64 /ea	471
12 - Soiled dishtable w/sink	1.00 ea	2,989.23 /ea	2,989
Disposer/controls	1.00 ea	8,218.44 /ea	8,218
13 - Waste bin	6.00 ea	600.00 /ea	3,600
14 - Dishmachine	1.00 ea	29,382.81 /ea	29,383
15 - 3 Bay pot sink	1.00 ea	7,035.18 /ea	7,035
16 - Wall shelf w/ pot hooks	1.00 ea	1,215.45 /ea	1,215
17 - Hand sink	1.00 ea	1,148.85 /ea	1,149
18 - Mobile pot shelving	2.00 ea	491.73 /ea	983
19 - Mobile pot shelving	1.00 ea	543.90 /ea	544
21 - Dry storage shelving	4.00 ea	543.90 /ea	2,176
23 - Reach in refrigerator	1.00 ea	5,354.64 /ea	5,355
24 - Work table w/ overshelf	1.00 ea	4,548.78 /ea	4,549
25 - Food processor	1.00 ea	4,860.69 /ea	4,861
26 - Work table with sink	1.00 ea	4,711.95 /ea	4,712
27 - Work table w/ overshelf	1.00 ea	4,548.78 /ea	4,549
28 - Food slicer	1.00 ea	4,408.92 /ea	4,409
30 - Reach in heated cabinet	1.00 ea	5,132.64 /ea	5,133
31 - Work table with hand sink	1.00 ea	4,711.95 /ea	4,712
34F -6 Burner range with oven	1.00 ea	8,019.75 /ea	8,020
35 - 40 gal tilting kettle	1.00 ea	20,861.34 /ea	20,861
36 - Floor trough	1.00 ea	2,555.22 /ea	2,555
37 - 30 gal tilting skillet	1.00 ea	18,420.45 /ea	18,420
38 - Floor trough	1.00 ea	2,555.22 /ea	2,555
39 -Convection steamer	1.00 ea	20,699.28 /ea	20,699
40 - Exhaust hoods	1.00 ea	39,684.72 /ea	39,685
41 - Fire suppression system	1.00 ea	8,151.84 /ea	8,152
43 - Demand controls	1.00 ea	5,975.13 /ea	5,975
44 - Conveyor pizza oven	1.00 ea	12,753.90 /ea	12,754
45 - Double convectoin oven	1.00 ea	17,772.21 /ea	17,772
46 - Double convection oven	1.00 ea	19,075.35 /ea	19,075
47 - Work table w/ handsink & overshelf	1.00 ea	7,001.88 /ea	7,002
49 - Reach in heated cabinet	1.00 ea	5,132.64 /ea	5,133
50 - Prep table w/ sinks	1.00 ea	5,148.18 /ea	5,148
51 - Pan rack cart	4.00 ea	459.54 /ea	1,838



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
114000 Food Service Equipment			
52 - Work table w/ handsink and overshelf	1.00 ea	4,064.82 /ea	4,065
54 - Reach in refrigerator	1.00 ea	4,982.79 /ea	4,983
55- Prep table w/ sinks & overshelf	1.00 ea	5,929.62 /ea	5,930
56 - Mobile dry storage shelving	3.00 ea	491.73 /ea	1,475
59 - Hand sink	1.00 ea	1,148.85 /ea	1,149
62 - Service counter	1.00 ea	80,857.95 /ea	80,858
reduce pricing on counter	(1.00) ea	42,295.00 /ea	(42,295)
63 - Heated shelf food warmer	1.00 ea	1,060.05 /ea	1,060
63A - sneeze guard w/ light & heat	1.00 ea	6,269.28 /ea	6,269
64 - Heated shelf food warmer	1.00 ea	1,060.05 /ea	1,060
64A - Sneeze guard w/ light & heat	1.00 ea	6,269.28 /ea	6,269
65 - Folding cutting board	3.00 ea	183.15 /ea	549
66 - Hot food wells	1.00 ea	23,734.02 /ea	23,734
66A - Sneeze guard w/ light & heat	1.00 ea	9,920.07 /ea	9,920
67 - Folding cutting board	3.00 ea	183.15 /ea	549
68 - Hot food wells	1.00 ea	23,734.02 /ea	23,734
68A - Sneeze guard w/ light & heat	1.00 ea	9,920.07 /ea	9,920
69F -Refrigerated merchandiser	1.00 ea	10,225.32 /ea	10,225
70F - Refrigerated merchandiser	1.00 ea	10,225.32 /ea	10,225
71 - Folding cutting board	3.00 ea	183.15 /ea	549
72 - Cold food wells	1.00 ea	23,734.02 /ea	23,734
72A - Sneeze guard w/ light	1.00 ea	7,532.46 /ea	7,532
73 - Cold food wells	1.00 ea	23,734.02 /ea	23,734
73A - Sneeze guard w/ light	1.00 ea	7,532.46 /ea	7,532
74 - Open display merchandiser	3.00 ea	10,225.32 /ea	30,676
75 - Refrigerated merchandiser	1.00 ea	10,225.32 /ea	10,225
76 - Refrigerated merchandiser	1.00 ea	10,225.32 /ea	10,225
77 - Cashier counter	1.00 ea	6,683.31 /ea	6,683
80 - Milk cooler	1.00 ea	3,222.33 /ea	3,222
81 - Cashier counter	1.00 ea	6,683.31 /ea	6,683
84 - Milk cooler	1.00 ea	225.33 /ea	225
85 - Cashier counter	1.00 ea	5,891.88 /ea	5,892
88 - Milk cooler	1.00 ea	2,720.61 /ea	2,721
Eqp bought with phase 2, used in phase 3 (2 ovens and 1 range)	1.00 ls	50,000.00 /ls	50,000
114000 Food Service Equipment		/gsf	750,848
114500 Residential Appliances			
Full size fridge - REF-1, -1A, 2 (prev 21ea)	17.00 ea	1,600.00 /ea	27,200
UC fridge - REF-4 (prev 16ea)	19.00 ea	1,000.00 /ea	19,000
Full size freezer - FRE-1, -2 (prev 2ea)	3.00 ea	2,000.00 /ea	6,000
<i>UC freezer (prev 1ea) none shown</i>	<i>0.00 ea</i>	<i>/ea</i>	
Microwave - MW-1 (prev 32ea)	25.00 ea	500.00 /ea	12,500
Washer - W-1 (prev 5ea)	4.00 ea	1,500.00 /ea	6,000
Dryer - D-1 (prev 5ea)	4.00 ea	1,500.00 /ea	6,000
Dishwasher - DW-1 (prev 12ea)	6.00 ea	1,000.00 /ea	6,000
Wall oven - CS-3 (prev 6ea)	7.00 ea	1,000.00 /ea	7,000
Cookstove - CS-1, -2 (prev 10ea)	13.00 ea	1,500.00 /ea	19,500
Exhaust hood - EH-1, -2	13.00 ea	500.00 /ea	6,500
ADA cooktop - CS-4 (prev 8ea)	4.00 ea	1,500.00 /ea	6,000
Ice machine - IM-1	1.00 ea	4,000.00 /ea	4,000
Undercounter ice machine - IM-2 (prev 2ea)	11.00 ea	1,500.00 /ea	16,500
Cook stop (prev 10ea)	13.00 ea	1,500.00 /ea	19,500
114500 Residential Appliances		/gsf	161,700
116620 Athletic Equipment - Gym			
Basketball backstop - ceiling-hung - retractable glass	7.00 ea	8,316.00 /ea	58,212



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
116620 Athletic Equipment - Gym			
Gym divider curtain (gym) - electric roll up 102' x 30'h	3,060.00 sf	8.00 /sf	24,480
Wall padding	2,496.00 sf	18.50 /sf	46,176
Volleyball Equipment (floor sleeves)	2.00 ls	1,100.00 /ls	2,200
Wrestling mat mover	2.00 ls	23,100.00 /ls	46,200
<i>Wrestling mat 42'x42' - supplied by Owner</i>	0.00 ls	0.00 /ls	0
Rock Climbing Wall (1 ea)	1.00 ls	159,500.00 /ls	159,500
<i>Climbing rope & hoist</i>	0.00 ls	0.00 /ls	0
Score Boards (2 ea) & Shot clocks (6 ea) - gym only	1.00 ls	35,000.00 /ls	35,000
116620 Athletic Equipment - Gym		/gsf	371,768
117010 Vocational Equipment			
<i>Allowance for vocational and technology eqp</i>	0.00 allw	0.00 /allw	0
Kiln	1.00 ea	5,000.00 /ea	5,000
117010 Vocational Equipment		/gsf	5,000
123000 Manufactured Casework			
Pass thru fume hoods	7.00 ea	32,500.00 /ea	227,500
123000 Manufactured Casework		/gsf	227,500
126100 Fixed Audience Seating			
Fixed audience seating - auditorium - based on quote from CBS	736.00 ea	382.00 /ea	281,152
Fixed audience seating - auditorium - loose chair	76.00 ea	180.00 /ea	13,680
Fixed audience seating - debate lab - based on quote from CBS	120.00 ea	382.00 /ea	45,840
126100 Fixed Audience Seating		/gsf	340,672
126600 Telescoping Stands			
Retractable Bleachers at gym (seat number is gross)	2,560.00 seat	139.00 /seat	355,840
126600 Telescoping Stands		/gsf	355,840
E10 Equipment General	408,500.00 gsf	7.31 /gsf	2,987,461
E10 Equipment	408,500.00 gsf	7.31 /gsf	2,987,461
E20 Furnishings			
E2010 Fixed Furnishings			
122400 Window Shades			
Ext Sngl roller shade assemblies per shade drawing (409 ea)	18,240.00 sf	10.00 /sf	182,400
Ext Dbl roller shade assemblies per shade drawing (17 ea)	1,170.00 sf	20.00 /sf	23,400
Motorized shades - room darkening (9 ea)	1,561.00 sf	15.00 /sf	23,415
Motorized shades - blackout (7 ea)	384.00 sf	20.00 /sf	7,680
add for motors (no wider than 10')	24.00 ea	1,100.00 /ea	26,400
Interior shades at language lab, smart center, committee rm	16.00 ea	350.00 /ea	5,600
Interior blinds at all borrowed lights per note B A9.4	6,000.00 sf	10.00 /sf	60,000
Motorized shade a 5th floor interior D-lab - rm darkening - 70'	420.00 sf	15.00 /sf	6,300
add for motors (no wider than 10') at D-lab	8.00 ea	1,100.00 /ea	8,800
Interior blinds at door types B,E,F	325.00 ea	75.00 /ea	24,375
122400 Window Shades		/gsf	368,370
123000 Manufactured Casework			



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
123000 Manufactured Casework			
Bookcases (6 ea)	18.00 lf	166.41 /lf	2,995
<i>Built-in desk at daycare</i>	<i>33.00 lf</i>	<i>/lf</i>	
<i>Preschool lockers/cubbies</i>	<i>0.00 lf</i>	<i>/lf</i>	
Base cabinet - type ADA3633 (prev 291lf)	248.00 lf	221.43 /lf	54,915
Base cabinet - type B02633	4.00 lf	221.43 /lf	886
Base cabinet - type B03033 (prev 5lf)	10.00 lf	221.43 /lf	2,214
Base cabinet - type B03433	3.00 lf	221.43 /lf	664
Base cabinet - type B03633 (prev 15lf)	18.00 lf	221.43 /lf	3,986
Base cabinet - type B11833 (prev 9lf)	17.00 lf	221.43 /lf	3,764
Base cabinet - type B12233	4.00 lf	221.44 /lf	886
Base cabinet - type B12433	44.00 lf	221.43 /lf	9,743
Base cabinet - type B12833	2.33 lf	221.43 /lf	516
Base cabinet - type B13033	707.50 lf	221.43 /lf	156,662
Base cabinet - type B13233 (prev 5lf)	16.00 lf	221.42 /lf	3,543
Base cabinet - type B13433	2.83 lf	221.43 /lf	627
Base cabinet - type B13633 (prev 459lf)	400.00 lf	221.43 /lf	88,572
Base cabinet - type B14233	4.00 lf	221.43 /lf	886
Base cabinet - type BP3033	20.00 lf	221.43 /lf	4,429
Base cabinet - type BS3633 (prev 159lf)	165.00 lf	221.43 /lf	36,536
Countertop epoxy resin at science and prep rooms (prev 963lf)	1,048.00 lf	131.52 /lf	137,833
Countertop solid surface (prev 985lf)	883.00 lf	201.30 /lf	177,748
Hat shelf - H3012A	10.00 lf	40.26 /lf	403
Hat shelf - H3312A	5.50 lf	40.26 /lf	221
Hat shelf - H3612A	15.00 lf	40.26 /lf	604
Hat shelf - H3612S	15.00 lf	40.26 /lf	604
Storage music - M-S06 (12ea)	24.00 lf	570.35 /lf	13,688
Storage music - M01G (1ea) (prev 4lf)	2.00 lf	469.71 /lf	939
Storage music - M02G (1ea)	2.00 lf	469.69 /lf	939
Storage music - M04G (5ea)	10.00 lf	469.70 /lf	4,697
Storage music - M05G (10ea)	20.00 lf	469.70 /lf	9,394
Storage music - M11G (2ea)	4.00 lf	469.70 /lf	1,879
Storage music - M18G (1ea)	2.50 lf	469.70 /lf	1,174
Storage music - M43G (2ea)	4.00 lf	469.70 /lf	1,879
Mail slots - M3648	12.00 lf	469.70 /lf	5,636
Mail slots - M6024	5.00 lf	469.70 /lf	2,349
Tall wall oven cabinet - TO2726	15.75 lf	402.60 /lf	6,341
Tall storage - TS3030	180.00 lf	348.92 /lf	62,806
<i>Tall storage - TS3624 (prev 12lf) none shown</i>	<i>0.00 lf</i>	<i>/lf</i>	
Tall storage - TS3626 (prev 108lf)	92.00 lf	348.92 /lf	32,101
Tall storage - TS3626M	45.00 lf	348.92 /lf	15,701
Tall storage - TS3630L (prev 216lf)	292.00 lf	348.92 /lf	101,885
Tall storage - TS3631(prev 24lf)	33.00 lf	348.92 /lf	11,514
Tall storage - TS3631D (prev 9lf)	14.00 lf	348.93 /lf	4,885
Tall storage - TT3631 (prev 3lf)	6.00 lf	348.93 /lf	2,094
Tall storage - TW3624 (prev 6lf)	24.00 lf	348.93 /lf	8,374
Tall storage - TW3626 (prev 48lf)	56.00 lf	348.92 /lf	19,540
Tall storage - TW3630 (prev 222lf)	178.00 lf	348.92 /lf	62,108
Tall storage - untagged	7.00 lf	348.92 /lf	2,442
Wall cabinet - W2030	2.00 lf	208.00 /lf	416
Wall cabinet - W2230	4.00 lf	208.00 /lf	832
Wall cabinet - W2424	12.00 lf	208.00 /lf	2,496
Wall cabinet - W2430 (prev 114lf)	74.00 lf	208.00 /lf	15,392
Wall cabinet - W3018 (prev 20lf)	26.00 lf	208.00 /lf	5,408
Wall cabinet - W3024 (prev 25 lf)	22.00 lf	208.00 /lf	4,576
Wall cabinet - W3030 (prev 680lf)	704.00 lf	208.00 /lf	146,432
Wall cabinet - W3230 (prev 3lf)	27.00 lf	208.01 /lf	5,616
Wall cabinet - W3618 (prev 18lf)	15.00 lf	208.00 /lf	3,120
Wall cabinet - W3624 (prev 408lf)	403.00 lf	208.00 /lf	83,824



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
123000 Manufactured Casework			
Wall cabinet - W3630 (prev 483lf)	454.00 lf	208.00 /lf	94,432
Wall cabinet - W4230 (prev 39lf)	3.00 lf	208.00 /lf	624
Wall cabinet - W4430	18.00 lf	208.00 /lf	3,744
Wall cabinet - WG3624	7.00 lf	208.00 /lf	1,456
Science sinks, faucet only	77.00 ea	530.09 /ea	40,817
Classroom sinks	67.00 ea	1,061.52 /ea	71,122
<i>勞工 for trade support - Mfg Casework</i>	wks	/wks	
123000 Manufactured Casework			
		/gsf	1,541,907
124810 Entrance Floor Mats and Frames			
EM1 - entrance mat type 1, forbo carpet	182.00 sf	15.00 /sf	2,730
EM2 - entrance mat type 2, forbo carpet	1,328.00 sf	15.00 /sf	19,920
EM3 - entrance mat type 3, forbo carpet	2,631.00 sf	15.00 /sf	39,465
124810 Entrance Floor Mats and Frames			
		/sf	62,115
E2010 Fixed Furnishings	408,500.00 gsf	4.83 /gsf	1,972,392
E20 Furnishings	408,500.00 gsf	4.83 /gsf	1,972,392
E Equipment & Furnishings	408,500.00 gsf	12.14 /gsf	4,959,853
F Special Construction & Demolition			
F10 Special Construction			
F10 Temporary Construction			
015060 Temporary Enclosures			
Temp exterior/interior enclosure end of phase 1 (130'x18'+130'x14'+60'x14'+20'x15')	5,140.00 sf	28.00 /sf	143,920
Temp exterior only enclosure end of phase 1 (20'x18' + 36'x14' + 65'x14' +20'x15')	1,774.00 sf	20.00 /sf	35,480
Temp exterior/interior enclosure end of phase 2 (140'x56')	7,840.00 sf	28.00 /sf	219,520
Temp exterior only enclosure end of phase 2 (70'x56')	3,920.00 sf	20.00 /sf	78,400
015060 Temporary Enclosures			
		/gsf	477,320
015070 Temporary Construction			
Temp enclosed stairs from GF to level 2	2.00 fl	75,000.00 /fl	150,000
Temporary construction for safe egress	1.00 allw	75,000.00 /allw	75,000
Temporary modifications to existing to allow for separation	1.00 ls	100,000.00 /ls	100,000
Temporary pedestrian protection & access - phase 2,3	1.00 ls	220,000.00 /ls	220,000
Allowance for selective demo and grading for temporary protection	1.00 ls	50,000.00 /ls	50,000
Staging/pedestrian overhead protection - phase 1	1.00 ls	190,000.00 /ls	190,000
015070 Temporary Construction			
		/gsf	785,000
015075 Bridge Connection (A1.2.4)			
Selective demo	1,600.00 gsf	12.00 /gsf	19,200
Railings	135.00 lf	180.00 /lf	24,300
Ramp, platform and rails per quote from Amramp	660.00 sf	67.56 /sf	44,590
Drywall, ceilings, flooring, painting	1,600.00 sf	45.00 /sf	72,000
HVAC	1,600.00 gsf	15.00 /gsf	24,000
Electrical	1,600.00 gsf	24.00 /gsf	38,400
New bridge building complete	1,100.00 gsf	200.00 /gsf	220,000



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
015075 Bridge Connection (A1.2.4)			442,489
015080 Swing Spacing			
3rd floor temp library	4,605.00 gsf	20.00 /gsf	92,100
2nd floor ada lift and modifications to ramp (all but HVAC)	1.00 ls	100,000.00 /ls	100,000
2nd floor temp kitchen, minor plumbing, health dept improv (all but HVAC)	7,000.00 gsf	17.00 /gsf	119,000
3rd floor LABB program, new quite room (all but HVAC)	2,400.00 gsf	50.00 /gsf	120,000
3rd floor LABB program, nurse suite, kitchentte (all but HVAC)	1.00 ls	100,000.00 /ls	100,000
4th floor sped office/science center, fire alarm, hvac, drywall (all but HVAC)	1.00 ls	50,000.00 /ls	50,000
A1.2.3 - modifications at corner of Fusco incl walls, toilet demo (all but HVAC)	1.00 ls	100,000.00 /ls	100,000
015080 Swing Spacing		/gsf	681,100
015083 CR 17 - Cooling at Existing Building			
Temp cooling of existing buildng	1.00 ls	106,000.00 /ls	106,000
015083 CR 17 - Cooling at Existing Building			106,000
040130 Historic Salvage & Reuse			
Fusco stone entry facade (2/A12.8.0b) x	1.00 ls	210,000.00 /ls	210,000
Investigation associated with historic salvage (per approved OAL)	1.00 ls	75,000.00 /ls	75,000
040130 Historic Salvage & Reuse		/gsf	285,000
069999 Historic Salvaged (except Stone Facade)			
Clock mechanism at tower - salvage and turn over to Owner x	1.00 ls	15,000.00 /ls	15,000
Old Hall proscenium and return to owner x	1.00 ls	10,000.00 /ls	10,000
Remove and reinstall carved frieze for Fusco old hall x	1.00 ls	4,000.00 /ls	4,000
River of Hands Mosaic - 60' long - salvage and relocated to 3rd floor corridor	1.00 ls	25,000.00 /ls	25,000
Carved wood panel frm Fusco entry stair, remounted at auditorium entry	1.00 ls	15,000.00 /ls	15,000
069999 Historic Salvaged (except Stone Facade)			69,000
312000 Earth Work			
Additional earth moving at interim all other phases (incl paving as required)	1.00 al	100,000.00 /al	100,000
312000 Earth Work		/gsf	100,000
F10 Temporary Construction		/gsf	2,945,910
F10 EB#3 Summer 2020 Swing Space EBP#3			
015082 EBP #3 - Summer 2020 Work			
Selective demolition - Costello	1.00 ls	40,370.00 /ls	40,370
Paint - Color Concepts	1.00 ls	37,800.00 /ls	37,800
Abatement - Costello	1.00 ls	12,130.00 /ls	12,130
Concrete and bollard	1.00 ls	18,100.00 /ls	18,100
Plumbing - Robert Irvine	1.00 ls	48,880.00 /ls	48,880
HVAC - CAM HVAC	1.00 ls	167,000.00 /ls	167,000
Electrical - WJ Griffin	1.00 ls	194,890.00 /ls	194,890
Carpenter - Padco/Riggs	1.00 ls	12,760.00 /ls	12,760
D/F/H - Horner, Riggs	1.00 ls	34,260.00 /ls	34,260
Glass - A&A	1.00 ls	9,000.00 /ls	9,000
Drywall - TJ McCartney	1.00 ls	79,100.00 /ls	79,100
Acoustical ceilings	1.00 ls	2,700.00 /ls	2,700
Flooring & Tile - Ayotte & King	1.00 ls	33,990.00 /ls	33,990
Specialties - Automation	1.00 ls	29,308.00 /ls	29,308
GRs	1.00 ls	125,000.00 /ls	125,000



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
015082 EBP #3 - Summer 2020 Work			845,288
F10 EB#3 Summer 2020 Swing Space EBP#3			845,288
F10 Special Construction		/gsf	3,791,198
F20 Existing Building Demolition			
F2010 Building Elements Demolition			
024119 Demolition			
Building demo - Costello	1.00 ls	3,027,125.00 /ls	3,027,125
024119 Demolition		/sf	3,027,125
F2010 Building Elements Demolition	408,500.00 gsf	7.41 /gsf	3,027,125
F20 Existing Building Demolition	408,500.00 gsf	7.41 /gsf	3,027,125
F23 Asbestos Containing Floor Material			
F2020 Hazardous Component Abatement			
022820 Asbestos Remediation			
Abatement - Costello	1.00 ls	3,863,950.00 /ls	3,863,950
022820 Asbestos Remediation		/sf	3,863,950
F2020 Hazardous Component Abatement	408,500.00 gsf	9.46 /gsf	3,863,950
F23 Asbestos Containing Floor Material	408,500.00 gsf	9.46 /gsf	3,863,950
F Special Construction & Demolition	408,500.00 gsf	26.15 /gsf	10,682,273
G Sitework			
G10 Site Preparation			
F10 Temporary Construction			
323111 Temporary Fencing			
Temporary construction fence - phase 1 Riggs	1.00 ls	184,330.00 /ls	184,330
323111 Temporary Fencing		/gsf	184,330
F10 Temporary Construction	408,500.00 gsf	0.45 /gsf	184,330
G10 Site Preparation			
010200 Allowances			
Site Derenzo ph 1 allowances	1.00 allw	200,000.00 /allw	200,000
010200 Allowances		/gsf	200,000



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
015070 Temporary Construction			
Site Derenzo ph 1 temp staging & temp construction	1.00 ls	200,000.00 /ls	200,000
015070 Temporary Construction			
		/gsf	200,000
310000 Site Misc			
Street sweeping while trucking allowance	1.00 allo	90,000.00 /allo	90,000
勞工 for trade support - Site			
Site Derenzo ph 1 -Equipment mobilization, general requirements	1.00 ls	332,000.00 /ls	332,000
Equipment mobilization, project manager, sitework superintendent - ph 2-4	3.00 ls	140,000.00 /ls	420,000
<i>Preconstruction survey of neighboring properties by 3rd party (bought with site)</i>			
Survey/layout - ph 2-4	80.00 wk	1,650.00 /wk	132,000
Police details - for use by site contractor during trucking & utilities	100.00 dy	800.00 /dy	80,000
Temporary site signage	1.00 ls	40,000.00 /ls	40,000
<i>Prep for construction trailers, incl paving</i>			
	<i>0.00 ls</i>	<i>/ls</i>	
310000 Site Misc			
		/gsf	1,094,000
311000 Site Clearing			
Demo drain/sewer structures	36.00 ea	250.00 /ea	9,000
Sawcut Bituminous concrete paving	1,250.00 lf	6.05 /lf	7,563
Site Derenzo ph 1 site clearing	1.00 ls	120,000.00 /ls	120,000
Remove & Dispose Bituminous Pavements	139,352.00 sf	1.00 /sf	139,352
Remove & Dispose Concrete Pads & Sidewalks	30,000.00 sf	2.20 /sf	66,000
Remove & Dispose Brick Paving	1,303.00 sf	3.00 /sf	3,909
Remove & Dispose Concrete Pad	287.00 sf	2.20 /sf	631
Demo Discus Area Concrete Pad, Posts & Footings	662.00 sf	4.00 /sf	2,648
Remove & Dispose Existing Fence	2,041.00 lf	8.00 /lf	16,328
Remove & Dispose Concrete Wall	268.00 lf	75.00 /lf	20,100
Remove & Dispose Paving Surfacing and Structure t courtyard	23,334.00 sf	2.00 /sf	46,668
Remove & Dispose Planter Box	13.00 ea	150.00 /ea	1,950
Remove & Dispose Concrete Pavements	2,306.00 sf	2.00 /sf	4,612
Salvage existing bench at sport field	2.00 ea	2,500.00 /ea	5,000
Salvage Existing Shed	1.00 ea	3,500.00 /ea	3,500
Demo water piping	1,592.00 lf	24.00 /lf	38,208
Demo ug elec service lines	300.00 lf	24.00 /lf	7,200
Demo Drainage piping	3,031.00 lf	24.00 /lf	72,744
Demo Gas piping	350.00 lf	24.00 /lf	8,400
Demo sewer piping	350.00 lf	24.00 /lf	8,400
Clear and grub site - phase 2-4 (10,128 sf)	1.00 ls	40,000.00 /ls	40,000
Demo Light Poles w/ Bases	26.00 ea	250.00 /ea	6,500
Remove & Dispose Trees, incl stumps (12"-20")	48.00 ea	800.00 /ea	38,400
Demo misc. site items bollards, poles pole bases, etc...	1.00 ls	50,000.00 /ls	50,000
Protect Exist. Utility poles	3.00 ea	550.00 /ea	1,650
Demo site guardrailing	353.00 lf	25.00 /lf	8,825
Remove & Dispose Site Curbing	2,940.00 lf	2.50 /lf	7,350
Remove & Dispose Site Curbing at Mass Ave.	230.00 lf	15.00 /lf	3,450
311000 Site Clearing			
		/gsf	738,388
312000 Earth Work			
Strip loam - phase 2	760.00 cy	5.00 /cy	3,800
Strip loam - phase 3	1,669.00 cy	5.00 /cy	8,345
Strip loam - phase 4 (7,949 cy, but 4,000 already striped)	4,000.00 cy	5.00 /cy	20,000
Site Derenzo ph 1 - earthwork	1.00 ls	335,000.00 /ls	335,000
Cut to subgrade outside building footprint- Phase 2	1,861.00 cy	16.00 /cy	29,776
Fill from cut outside building footprint- Phase 2	1,861.00 cy	16.00 /cy	29,776



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
312000 Earth Work			
Fill to subgrade with offsite "ordinary fill" outside building footprint- Phase 2	11,549.00 cy	35.00 /cy	404,215
Cut to subgrade outside building footprint- Phase 3	1,822.00 cy	16.00 /cy	29,152
Fill from cut outside building footprint- Phase 3	1,822.00 cy	16.00 /cy	29,152
Fill to subgrade with offsite "ordinary fill" outside building footprint- Phase 3	12,891.00 cy	35.00 /cy	451,185
Cut to subgrade outside building footprint- Phase 4	394.00 cy	16.00 /cy	6,304
Fill from cut outside building footprint- Phase 4	394.00 cy	16.00 /cy	6,304
Fill to subgrade with offsite "ordinary fill" outside building footprint- Phase 4	22,222.00 cy	35.00 /cy	777,770
<i>Cut to haul, T& D carried elsewhere</i>	<i>0.00 cy</i>	<i>/cy</i>	
Credit to offsite fill due to utility trenches & retention system	(2,400.00) cy	35.00 /cy	(84,000)
Credit to offsite fill due to sport field drainage	(1,216.87) cy	35.00 /cy	(42,590)
Rough grade- Phase 2	182,649.00 sf	0.13 /sf	24,110
Rough grade- Phase 3	151,106.00 sf	0.13 /sf	19,946
Rough grade- Phase 4	299,780.00 sf	0.13 /sf	39,571
Replace contaminated material with offsite ordinary fill	6,000.00 cy	35.00 /cy	210,000
<i>Loam required for landscaping (2,928 + 25% for tailings)</i>	<i>3,660.00 cy</i>	<i>/cy</i>	
Screen loam incl on-site trucking	3,660.00 cy	18.00 /cy	65,880
Disposal of tailings	915.00 cy	30.00 /cy	27,450
Disposal of excess loam (6,429 cy -3,000 cy)	3,429.00 cy	32.00 /cy	109,728
312000 Earth Work	596,304.00 gsf	4.19 /gsf	2,500,873
312319 Dewatering			
Site Derenzo ph 1 - Dewatering	1.00 ls	65,000.00 /ls	65,000
312319 Dewatering		/gsf	65,000
312500 Sedimentation and Erosion Control			
Site Derenzo ph 1 - erosion control	1.00 ls	50,000.00 /ls	50,000
Maintain siltation control at stockpiles	1.00 ls	10,000.00 /ls	10,000
Siltation barrier	3,490.00 lf	10.00 /lf	34,900
Straw Wattle and Silt Fence	3,809.00 lf	10.00 /lf	38,090
Tree protection fence- (4' high Snow Fence)	400.00 lf	10.00 /lf	4,000
Clean out catch basin/area drain	29.00 ea	220.00 /ea	6,380
Catch Basin Filter	29.00 ea	150.00 /ea	4,350
Inspect catch basin after each storm	1.00 ls	10,000.00 /ls	10,000
<i>Construct/Maintain temp stormwater basins</i>	<i>0.00 sf</i>	<i>0.00 /sf</i>	<i>0</i>
<i>Seeding at temporary basin</i>	<i>0.00 sf</i>	<i>0.00 /sf</i>	<i>0</i>
Filter Fabric at settling basins	3,453.00 sf	1.10 /sf	3,798
Flexterra or equal, erosion control material	55,000.00 sf	1.10 /sf	60,500
312500 Sedimentation and Erosion Control		/gsf	222,018
312610 Hazardous Waste Remediation			
Allowance for repairs to engineered barriers	1.00 allw	300,000.00 /allw	300,000
Water treatment	1.00 ls	100,000.00 /ls	100,000
UST removal	1.00 ls	65,000.00 /ls	65,000
Allowance for clean corridor	1.00 allw	100,000.00 /allw	100,000
312610 Hazardous Waste Remediation		/gsf	565,000
323111 Temporary Fencing			
Temporary construction fence - gates - phase 2	4.00 ea	990.00 /ea	3,960
Temporary construction fence - phase 2	1,860.00 lf	38.00 /lf	70,680
Temporary construction fence - gates - phase 2	2.00 ea	990.00 /ea	1,980
Temporary construction fence - phase 3	500.00 lf	38.00 /lf	19,000
Temporary construction fence - gates	2.00 ea	990.00 /ea	1,980
Temporary construction fence - phase 4	2,200.00 lf	38.00 /lf	83,600
Temporary construction fence - gates	4.00 ea	990.00 /ea	3,960



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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
323111 Temporary Fencing Temporary construction fence - scrim	9,410.00 lf	4.50 /lf	42,345
323111 Temporary Fencing		/gsf	227,505
G10 Site Preperation	408,500.00 gsf	14.23 /gsf	5,812,784
G10 Site Preparation	408,500.00 gsf	14.68 /gsf	5,997,114
G20 Site Improvements			
G20 Site Improvements			
316616 Permanent Soldier Pile Wall Filter fabric	5,432.00 sf	2.00 /sf	10,864
Miradrain 6000 panel board	5,432.00 sf	8.00 /sf	43,456
316616 Permanent Soldier Pile Wall		/gsf	54,320
321005 Roadways			
Gravel base course bit paving 12" - ph 2-4	3,934.17 cy	38.00 /cy	149,498
Site Derenzo ph 1Bituminous paving Binder only - (2.5" + 1.5") - ph 1	1.00 ls	115,000.00 /ls	115,000
Bituminous concrete paving Top course only - (1.5") - ph 2-4	3,474.00 sy	18.00 /sy	62,532
Bituminous concrete paving RD - (2.5" + 1.5") - ph 2-4	9,442.00 sy	31.50 /sy	297,423
<i>Bituminous concrete paving HD - (3.25"+1.75"+1.50") - ph 2-4</i>	<i>0.00 sy</i>	<i>/sy</i>	
Vertical granite curbs - reset only as needed on \ Mass Ave	1.00 al	5,000.00 /al	5,000
Vertical granite curbs - straight (incl both sides of Schuler Ct)	5,406.00 lf	48.00 /lf	259,488
Vertical granite curbs - radius (includes both sides of Schuler Ct)	1,036.00 lf	54.00 /lf	55,944
Vertical granite curbs - credit for a portion of West Schuler ct	(280.00) lf	48.00 /lf	(13,440)
Traffic signs	38.00 ea	495.00 /ea	18,810
Reserved praking	55.00 ea	350.00 /ea	19,250
Pavement markings - temp	1.00 ls	5,500.00 /ls	5,500
Pavement markings - parking spots	233.00 ea	49.50 /ea	11,534
Pavement markings - add for handicap	8.00 ea	121.00 /ea	968
Pavement markings - cross walks, misc	3.00 ls	2,000.00 /ls	6,000
Pavement markings - add for "reserved"	55.00 ea	55.00 /ea	3,025
Rubble strip, 6" concrete with bumps 4/L7.02	876.00 sf	30.00 /sf	26,280
321005 Roadways		/gsf	1,022,812
321010 Pedestrian Paving			
Galv railing at stairs at loading dock	25.00 lf	225.00 /lf	5,625
Site Derenzo ph gravel prep	1.00 ls	32,000.00 /ls	32,000
Gravel base at conc pavement (1/L7.02) 8" - ph 2-4	1,873.46 cy	40.00 /cy	74,938
Fine grade under site concrete - ph 2-4	60,700.00 sf	0.40 /sf	24,280
Gravel base at bituminous walks (2/L7.02) 8" - ph 2-4	378.03 cy	40.00 /cy	15,121
Gravel base at bituminous walks (2/L7.02) 12" - ph 2-4	622.50 cy	40.00 /cy	24,900
Generator and transformer pads (4 ea)	1,060.00 sf	15.12 /sf	16,027
Bituminous paving - pedestrian (not incl bike path)	1,360.89 sy	37.00 /sy	50,353
Bituminous paving - vehicular depth (not incl bike path)	1,494.00 sy	40.00 /sy	59,760
Truncated domes - for HC ramps	400.00 sf	25.99 /sf	10,395
Grass paver	385.00 sf	18.00 /sf	6,930
Pedestrian concrete walks	40,853.00 sf	11.91 /sf	486,437
Pedestrian concrete walks - inside courtyard not colored	2,460.00 sf	11.91 /sf	29,299
Pedestrian concrete walks - replace at Mass Ave	5,607.00 sf	11.91 /sf	66,763
Vehicular concrete paving	9,149.00 sf	13.89 /sf	127,093
HD Concrete paving at loading dock	2,633.00 sf	13.89 /sf	36,576
Thickened slab for benches	14.00 cy	283.50 /cy	3,969



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321010 Pedestrian Paving			
Thickened slab for bike racks 12"	26.00 cy	283.50 /cy	7,371
Concrete Bench Pad at Mass Ave (4 ea)	14.20 cy	800.00 /cy	11,360
321010 Pedestrian Paving		/gsf	1,089,197
321030 Amphitheater			
Precast conc curb - 12"w x 18"h (9/L7.02)	394.00 lf	150.00 /lf	59,100
Nailers for synthetic	830.00 lf	20.00 /lf	16,600
Synthetic field surfacing - ampitheater	4,100.00 sf	12.00 /sf	49,200
Add for 23 mm resilient pad	4,100.00 sf	1.85 /sf	7,585
Liner material - 25 mil	4,100.00 sf	1.10 /sf	4,510
Specialty drain adjacent to curb	415.00 lf	65.00 /lf	26,975
Galv railing at ramp ampitheater	60.00 lf	225.00 /lf	13,500
Ramp wall at Ampitheater	56.00 lf	401.63 /lf	22,491
CIP retaining wall footing (5' exp) - say 4'w x 18" dp x 100"	22.22 cy	779.63 /cy	17,323
at ampitheater (3' exp) - say 12" w x 6'h x 100'	22.22 cy	1,350.00 /cy	29,997
Concrete mow strip below picket fence	6.11 cy	1,350.00 /cy	8,249
321030 Amphitheater		/gsf	255,530
321032 East Courtyard			
Wood terraced seating on frame IPE	590.00 sf	150.00 /sf	88,500
Prefab weathering steel planter - courtyard 1/L7.11 24" h walls x591'	1,182.00 sf	110.00 /sf	130,020
Prefab weathering steel planter - courtyard 1/L7.11 bottom	1,527.00 sf	110.00 /sf	167,970
Conc pavers on grade, mortored (7/L7.02)	2,980.00 sf	38.00 /sf	113,240
Layered stone and planting mix at raised planters L7.11	103.70 cy	120.00 /cy	12,444
Conc pavers on pedestals (7/L7.02)	7,745.00 sf	38.00 /sf	294,310
321032 East Courtyard		/gsf	806,484
321034 Playground			
Dense grade under safety surfacing (14/L7.02) 6" - with surfacing cost below 1.8 tn/cy	122.76 tn	28.00 /tn	3,437
Crushed stone under safety surfacing (14/L7.02) 12" 1.6 tn/cy	218.30 tn	32.00 /tn	6,986
Play equipment, adjacent to wing C TBD	1.00 ls	100,000.00 /ls	100,000
Safety surfacing (13/L702)	3,684.00 sf	34.00 /sf	125,256
321034 Playground		/gsf	235,679
321400 Site Improvements			
Footings for bollards - fixed, manually retractable	39.00 ea	897.75 /ea	35,012
Footing/wall School sign	1.00 ls	5,670.00 /ls	5,670
Footing for flagpole	1.00 ls	2,362.50 /ls	2,363
Manually retractable bollard (5/L7.04)	2.00 ea	2,500.00 /ea	5,000
Fixed bollards	37.00 ea	1,200.00 /ea	44,400
Freestanding benches steel and wood, no back (L7.05)	86.00 lf	448.43 /lf	38,565
Benches steel and wood, no back (L7.05) - rad adjacent to bldg	48.00 lf	750.00 /lf	36,000
Benches steel and wood, no back (L7.05) - straight adjacent to bldg	54.00 lf	750.00 /lf	40,500
Trash/recycle receptacles (4/L704)	4.00 ea	3,870.00 /ea	15,480
Memorial bench reinstallation	1.00 ea	1,500.00 /ea	1,500
Memorial in planting	2.00 ea	2,000.00 /ea	4,000
Flagpole (3/L7.04)	1.00 ea	15,570.00 /ea	15,570
Bike repair station (2/L7.04)	1.00 ea	5,580.00 /ea	5,580
Bike rack (1/L7.04)	50.00 ea	819.00 /ea	40,950
Granite edging at exit from C wing (6/L7.02)	120.00 lf	100.00 /lf	12,000
School site sign	1.00 ls	20,000.00 /ls	20,000
credit for e/b with phase 1	(1.00) ls	30,000.00 /ls	(30,000)



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
321400 Site Improvements		/gsf	292,590
321404 Modular Retaining Walls			
Retaining Wall at east property line "below walk - 130x3	390.00 sf	45.00 /sf	17,550
Retaining Wall at east property line adjacent to fence- 115x3	445.00 sf	45.00 /sf	20,025
Retaining Wall adjacent to transformer/switchgear - 65' x 3	195.00 sf	45.00 /sf	8,775
321404 Modular Retaining Walls		/gsf	46,350
321405 CIP Stairs & Walls			
CIP retaining wall footing (5' exp) - say 6'w x 18" dp x 75'	25.00 cy	779.63 /cy	19,491
at butterfly pond CIP retaining wall (5' exp) - say 18" w x 7'h x 76'	29.56 cy	1,550.00 /cy	45,818
CIP retaining wall footing (5' exp) - say 6'w x 18" dp x 155"	51.67 cy	779.63 /cy	40,283
at the cliff CIP retaining wall (5' exp) - say 18" w x 8'h x 155"	68.89 cy	1,550.00 /cy	106,780
CIP retaining wall footing (5' exp) - say 6'w x 18" dp x 25'	6.00 cy	779.63 /cy	4,678
at amphitheater CIP retaining wall (5' exp) - say 18" w x 5'h x 25'	6.94 cy	1,550.00 /cy	10,757
Foundation for swing barrier gate 6/L7.03	2.00 ls	6,000.00 /ls	12,000
Gabion Retaining wall at East property line - 75' x 4'?	300.00 sf	40.00 /sf	12,000
321405 CIP Stairs & Walls		/gsf	251,806
321825 Sport Fields			
Synthetic turf field - stone base - (10" min+2") 2 types of stone profile	10,464.06 tn	28.00 /tn	292,994
Synthetic turf field - grading	176,581.00 sf	0.20 /sf	35,316
Synthetic turf field - geotec fabric	176,581.00 sf	0.40 /sf	70,632
<i>Gravel below (no clear) with cuts & fill (entire footprint is in fill)</i>	<i>0.00 tn</i>	<i>0.00 /tn</i>	<i>0</i>
Synthetic field surfacing - main fields (synthetic infill)	176,581.00 sf	5.25 /sf	927,050
Line markings	1.00 ls	80,000.00 /ls	80,000
Field liner equal to durascrim 16 mil	176,581.00 sf	1.00 /sf	176,581
Resilient underlayment	176,581.00 sf	1.50 /sf	264,872
Extended warranty - 8 yr	1.00 ls	0.01 /ls	0
3rd party testing	1.00 ls	25,000.00 /ls	25,000
Maintenance equipment, Gator, with sweeper and rake	1.00 ls	15,000.00 /ls	15,000
Perimeter ACO drain in place (concrete by others)	1,800.00 lf	100.00 /lf	180,000
Drain piping 12" - to connect chambers	330.00 lf	40.00 /lf	13,200
STDI + TBD structures	43.00 ea	3,000.00 /ea	129,000
Drainage chambers F&I (620 x 710)	8,800.00 ea	45.00 /ea	396,000
Conc nailer curb at synthetic field perimeter - ph 4	2,444.00 lf	85.00 /lf	207,740
Concrete slab (w/# rebar) at dugouts (4/L8.6)	4,953.00 sf	12.29 /sf	60,848
Add 18" diam sonotube at fence posts below perimeter curb (1/L8.11)	330.00 ea	325.00 /ea	107,250
Bases w/ subsurface structures (x/L16, x/L17)	6.00 ea	500.00 /ea	3,000
Home plate with concrete anchor (x/L16, x/L17)	4.00 ea	900.00 /ea	3,600
Pitching plate with concrete anchor (x/L16, x/L17)	4.00 ea	900.00 /ea	3,600
Football goal post	1.00 pr	8,000.00 /pr	8,000
Skinned infill surface at bull pen with marking and edging	420.00 sf	35.00 /sf	14,700
Shot put and javelin bases	1.00 ls	20,000.00 /ls	20,000
Geotextile fabric	34,000.00 sf	0.80 /sf	27,200
Crushed stone - A 620' x 14' x 16"	685.66 tn	32.00 /tn	21,941
Crushed stone - B 710' x 15' x 24"	1,262.22 tn	32.00 /tn	40,391
Crushed stone - credit for chambers	(720.00) tn	32.00 /tn	(23,040)
E/b for chambers	1,330.00 lf	40.00 /lf	53,200
321825 Sport Fields	178,820.00 gsf	17.64 /gsf	3,154,075
323100 Steel Picket Fence and Gates			
PKT (Decorative) - 4' - 2/L-7.10	47.00 lf	155.00 /lf	7,285
PKT (Decorative) - 4' Gate	2.00 lvs	1,800.00 /lvs	3,600
PKT (Decorative) - 6'	160.00 lf	185.00 /lf	29,600
PFT (Decorative) - 6' gate	2.00 lvs	2,000.00 /lvs	4,000



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
323100 Steel Picket Fence and Gages			
PKT (Decorative) - 8'	452.00 lf	225.00 /lf	101,700
PKT (Decorative) - 8' Gate	1.00 lvs	3,000.00 /lvs	3,000
323100 Steel Picket Fence and Gages			
323113 Chain Link Fence			
Swing barrier gate (6/L703) at loading dock - 28'	1.00 ls	14,000.00 /ls	14,000
Swing barrier gate at Mill St parking per 3/30 email - 24'	1.00 ls	14,000.00 /ls	14,000
Backstop with canopy - 24' w/ 8" post - 74' long	1.00 ls	20,160.00 /ls	20,160
Backstop with canopy - 30 w/ 6" post - 90' long	1.00 ls	29,200.00 /ls	29,200
Fixed ball control netting with high wind safety release - 30'h - 634'	19,020.00 sf	8.00 /sf	152,160
Concrete fence base and mow strip 18"x12" 5/L7.02	850.00 lf	75.00 /lf	63,750
Concrete fence base at lawn (5/L7.02)	270.00 lf	75.00 /lf	20,250
Posts to support baseball net - 30'h assume 20' oc	34.00 ea	1,750.00 /ea	59,500
Foul pole 24'	2.00 ea	3,200.00 /ea	6,400
Rolling gate at soccer field - 45'	1.00 ea	15,000.00 /ea	15,000
CLF - 4' Mounted on wall - 1/L-7.09 - straight	130.00 lf	62.00 /lf	8,060
CLF - 8' - 2/L-7.09	1,024.00 lf	86.00 /lf	88,064
CLF - 8' Gate	7.00 lvs	1,200.00 /lvs	8,400
CLF - 30' at discus and shotput	81.00 lf	250.00 /lf	20,250
CLF - 12'	340.00 lf	111.00 /lf	37,740
CLF - 51" at athletic field	981.00 lf	65.00 /lf	63,765
CLF - 51" Gate	9.00 lvs	1,100.00 /lvs	9,900
CLF - 99"	640.00 lf	90.00 /lf	57,600
323113 Chain Link Fence			
329000 Landscaping			
Irrigation - limited fields, mostly plantings	1.00 ls	292,000.00 /ls	292,000
Temporary seeding for erosion control	1.00 ls	5,500.00 /ls	5,500
Seeded lawn mix - 1/L701	56,225.00 sf	0.28 /sf	15,743
Meadow mix - 5/L-7.01	33,086.00 sf	0.29 /sf	9,595
Wetland mix - 4/L-7.01	6,392.00 sf	0.29 /sf	1,854
Athletic turf mix - 7/L7.01	59,937.00 sf	0.44 /sf	26,372
Shady Woodland Mix - 3/L-7.01	10,982.00 sf	0.35 /sf	3,844
Stone Mulch - 14/L-7.02	3,163.50 sf	14.00 /sf	44,289
<i>Lawn Maintenance by Owner</i>			
Erosion control mat	24,000.00 sf	0.65 /sf	15,600
Drainage under lawn	59,937.00 sf	1.00 /sf	59,937
Memorial planting TBD	1.00 ls	4,000.00 /ls	4,000
Tree - Shadblow Serviceberry - 7-8ft	40.00 ea	825.00 /ea	33,000
Tree - Paperbark Maple	1.00 ea	825.00 /ea	825
Tree - Red Maple - 2-2.5 in CAL	7.00 ea	825.00 /ea	5,775
Tree - Heritage River Birch - 10-12' ht	4.00 ea	1,175.00 /ea	4,700
Tree - Forest Pansy Redbud - 2-2.5 in cal	2.00 ea	825.00 /ea	1,650
Tree - Flowering Dogwood - 2-2.5 in cal	2.00 ea	825.00 /ea	1,650
Tree - Coneliancherry Dogwood - 4-5' ht	3.00 ea	550.00 /ea	1,650
Tree - Green Hawthorn - 2-2.5 in cal	6.00 ea	825.00 /ea	4,950
Tree - Autumn Gold Ginko - 2-2.5 in cal	6.00 ea	825.00 /ea	4,950
Tree - Honey Locust - 2-2.5 in cal	9.00 ea	825.00 /ea	7,425
Tree - Carolina Silverbell - 2-2.5 in cal	5.00 ea	825.00 /ea	4,125
Tree - Common Witch Hazel - 5-6 ft ht	21.00 ea	550.00 /ea	11,550
Tree - Vernal Witch Hazel - 5-6 ft ht	12.00 ea	550.00 /ea	6,600
Tree - Red Maple - 8-10 ft ht	28.00 ea	825.00 /ea	23,100
Tree - Tulip Tree - 3-3.5 in cal	3.00 ea	1,760.00 /ea	5,280
Tree - Cardinal Crabapple - 2-2.5 in cal	3.00 ea	825.00 /ea	2,475
Tree - Spring Snow Crabapple - 2-2.5 in cal	3.00 ea	825.00 /ea	2,475
Tree - Black Tupelo - 2-2.5 in cal	5.00 ea	825.00 /ea	4,125



90% CD Estimate

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Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
329000 Landscaping			
Tree - Sargent Cherry - 2-2.5 in cal	10.00 ea	825.00 /ea	8,250
Tree - White Pine - 2-2.5 in cal	5.00 ea	825.00 /ea	4,125
Tree - Pin Oak - 3-3.5 in cal	3.00 ea	1,760.00 /ea	5,280
Tree - Japanese Stewartia - 2-2.5 in cal	2.00 ea	825.00 /ea	1,650
Tree - Bald Cypress - 8-10 ft	4.00 ea	825.00 /ea	3,300
Tree - Elm - 3-3.5 in cal	17.00 ea	1,760.00 /ea	29,920
Tree - Elm - 8 in cal	3.00 ea	6,000.00 /ea	18,000
Shrub - Red Chokeberry - 3 gal	34.00 ea	90.00 /ea	3,060
Shrub - Butterfly Bush - 3 gal	3.00 ea	90.00 /ea	270
Shrub - Ruby Spice Summersweet - 3 gal	58.00 ea	90.00 /ea	5,220
Shrub - Compact Red Twig Dogwood - 5 gal	82.00 ea	150.00 /ea	12,300
Shrub - Blue Shadow Fothergilla - 5 gal	31.00 ea	150.00 /ea	4,650
Shrub - Pee Wee Oakleaf Hydrangea - 3 gal	92.00 ea	90.00 /ea	8,280
Shrub - Densa Inkberry	38.00 ea	90.00 /ea	3,420
Shrub - Red Sprite Winterberry - 5 gal	4.00 ea	150.00 /ea	600
Shrub - Little Henry Sweetspire - 3 gal	110.00 ea	90.00 /ea	9,900
Shrub - Spicebush - 5 gal	17.00 ea	150.00 /ea	2,550
Shrub - Dwarf Meyer's lilac - 5 gal	7.00 ea	150.00 /ea	1,050
Shrub - Arborvitae - 7-8ft ht	35.00 ea	400.00 /ea	14,000
Shrub - Dwarf Korean Spice Viburnum - 5 gal	5.00 ea	150.00 /ea	750
Shrub - Arrow-wood Viburnum - 3 gal	30.00 ea	90.00 /ea	2,700
Shrub - Mariesi Double Fire Viburnum - 3 gal	3.00 ea	90.00 /ea	270
Shrub - American Cranberry Bush - 3 gal	3.00 ea	90.00 /ea	270
Perennial - Ice Dance Japanese Sedge - 1 gal	1,016.00 ea	15.00 /ea	15,240
Perennial - All Gold Forest Grass - 1 gal	671.00 ea	15.00 /ea	10,065
Perennial - Blue Rug Creeping Juniper - 1 gal	575.00 ea	15.00 /ea	8,625
Perennial - Big Blue Lily Turf - 6" pot	1,737.00 ea	12.00 /ea	20,844
Perennial - Walker's Low Cat Mint - 1 gal	267.00 ea	15.00 /ea	4,005
Perennial - Pachysandra - 4" pot	1,250.00 ea	12.00 /ea	15,000
Perennial - Little Bunny Fountain Grass - 1 gal	290.00 ea	15.00 /ea	4,350
Plugs for the Raingarden - Broom Sedge (4 per sf)	4,392.00 ea	2.50 /ea	10,980
Plugs for the Raingarden - Fox Sedge (4 per sf)	4,376.00 ea	2.50 /ea	10,940
Plugs for the Raingarden - Green Coneflower (4 per sf)	3,460.00 ea	2.50 /ea	8,650
Plugs for the Raingarden - Great Blue Lobelia (4 per sf)	3,232.00 ea	2.50 /ea	8,080
Plugs for the Raingarden - Switch Grass (4 per sf)	3,756.00 ea	2.50 /ea	9,390
329000 Landscaping		/gsf	871,023
329010 Loam			
Reuse and amend loam - at lawns and fields (56,225 sf x 6" +0%)(1/L7.01)	1,041.20 cy	18.00 /cy	18,742
Compost tilled into existing at shady woodland mix (10,982 sf x 3" +25%)(3/L7.01)	127.11 cy	110.00 /cy	13,982
Offsite loam at shady woodland mix (10,982 sf x 1" +50%)(3/L7.01)	50.84 cy	80.00 /cy	4,067
Loosen top 2" prior to placing loam at wetland mix (4/L7.01)	6,392.00 sf	0.50 /sf	3,196
Offsite loam at wetland mix (6,392 x 1" +50%)(4/L7.01)	76.94 sf	80.00 /sf	6,155
Reuse and amend loam - at meadow mix (33,086 sf x 4" +0%)(5/L7.01)	408.47 cy	18.00 /cy	7,352
Reuse and amend loam at athletic fields ((59,937 sf x 8" +0%)(7/L7.01)	1,479.93 cy	18.00 /cy	26,639
Furnish and place offsite loam - at planting beds (13,700 sf x 18" +25%)	951.39 cy	65.00 /cy	61,840
Furnish and place offsite loam - at trees (36" = 4 cy per tree)	808.00 cy	65.00 /cy	52,520
329010 Loam			194,494
G20 Site Improvements		408,500.00 gsf	22.31 /gsf
G20 Site Improvements		408,500.00 gsf	22.31 /gsf
G30 Site Civil/Mechanical Utilities			9,111,743



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
G30 Civil Mechanical Utilities			
331000 Water Utilities			
Fire hydrant - phase 2-4	3.00 ea	4,950.00 /ea	14,850
Gate Valve & Box	7.00 ea	1,485.00 /ea	10,395
Fire water line - 3" Copper Type "K" Phase 4	45.00 lf	30.00 /lf	1,350
Fire water line - 8"	1,015.00 lf	120.00 /lf	121,800
Fire water line - 6"	235.00 lf	100.00 /lf	23,500
Wet tap w/ 8" tee	3.00 ea	10,000.00 /ea	30,000
Cap existing main - 8"	2.00 ea	800.00 /ea	1,600
Pressure test & chlorinate - ph 2-4	1,295.00 lf	5.00 /lf	6,475
331000 Water Utilities			/gsf
			209,970
333000 Sanitary Sewerage			
Allowance for utility shutdown and temporary bypass - phase 2	1.00 allw	50,000.00 /allw	50,000
Sanitary sewer piping - (6" PVC) - ph 2-4	1,075.00 lf	82.00 /lf	88,150
New Science Waste Tank - w/ plumbing			0.00 ea
Sanitary sewer Doghouse Manhole at MWRA Line	2.00 ea	22,450.00 /ea	44,900
Grease Tank (no size provided, P2.00b)- Phase 2 assume 5,000 gal	1.00 ea	20,000.00 /ea	20,000
Sanitary sewer manholes - ph 2-4	9.00 ea	4,400.00 /ea	39,600
Sanitary sewer testing - structures - ph 2-4	11.00 ea	220.00 /ea	2,420
Clean & Flush New Sanitary Piping - ph 2-4	1,075.00 lf	2.00 /lf	2,150
Video Inspections of New Sanitary Piping w/ DVD Media - ph 2-4	1,075.00 lf	9.50 /lf	10,213
333000 Sanitary Sewerage			/gsf
			257,433
334000 Stormwater Utilities			
HDPE - perf 4"	920.00 lf	78.00 /lf	71,760
HDPE - 4"	100.00 lf	78.00 /lf	7,800
HDPE - 6"	650.00 lf	79.00 /lf	51,350
HDPE - 8"	240.00 lf	80.00 /lf	19,200
HDPE - 10"	70.00 lf	82.00 /lf	5,740
HDPE - 12"	1,315.00 lf	82.00 /lf	107,830
HDPE - 15"	25.00 lf	86.00 /lf	2,150
HDPE - 18"	85.00 lf	90.00 /lf	7,650
HDPE - 24"	170.00 lf	100.00 /lf	17,000
HDPE - 30"	390.00 lf	115.00 /lf	44,850
Drainage retention including excavation, t & d - 54'x21'x4.5'dp	189.00 cy	180.00 /cy	34,020
Rain garden complete (5/C5.3.0) - 3"-48" special loam + crushed stone	1,335.00 sf	35.00 /sf	46,725
Rip rap	245.00 sf	36.00 /sf	8,820
Catch basins w/ Hoods (5'-12' depth) -	4.00 ea	5,000.00 /ea	20,000
Outlet Control Structure	2.00 ea	4,500.00 /ea	9,000
Water Quality Unit (STC 900)	5.00 ea	16,500.00 /ea	82,500
FES structure	4.00 ea	4,500.00 /ea	18,000
Area Drains (Nyloplast Basins 24" dia.)	9.00 ea	1,500.00 /ea	13,500
Drain Manholes (< 8' dia.) - ph 2-4	13.00 ea	4,500.00 /ea	58,500
Drain Manholes (extra large.) - ph 2-4	2.00 ea	7,500.00 /ea	15,000
Drain Doghouse manhole	1.00 ea	18,000.00 /ea	18,000
Change CB to MH	2.00 ea	1,800.00 /ea	3,600
Modify mh between phases	7.00 ea	1,400.00 /ea	9,800
Tie into existing mh - on site	3.00 ea	3,000.00 /ea	9,000
Trench Drain at Loading Dock	44.00 lf	125.00 /lf	5,500
Clean & Flush New Drainage Piping	3,965.00 lf	2.00 /lf	7,930
Video Inspections of New Drainage Piping w/ DVD Media	3,965.00 lf	5.00 /lf	19,825
334000 Stormwater Utilities			/gsf
			715,050
G30 Civil Mechanical Utilities		408,500.00 gsf	2.90 /gsf
			1,182,453



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
G3005 Enabling Utilities			
334001 Relocate 48" Storm Drain Site Derenzo - ph 1 storm culver relocation	700.00 lf	2,800.00 /lf	<u>1,960,000</u>
334001 Relocate 48" Storm Drain		/gsf	1,960,000
G3005 Enabling Utilities	408,500.00	4.80	1,960,000
G3010 Water Supply			
331000 Water Utilities Site Derenzo ph 1- Water line - 6"/8"	1.00 ls	155,000.00 /ls	<u>155,000</u>
331000 Water Utilities		/gsf	155,000
G3010 Water Supply	408,500.00 gsf	0.38 /gsf	155,000
G3020 Sanitary Sewer			
333000 Sanitary Sewerage Site Derenzo ph 1 sanitary	1.00 ls	55,000.00 /ls	<u>55,000</u>
333000 Sanitary Sewerage		/gsf	55,000
G3020 Sanitary Sewer	408,500.00 gsf	0.14 /gsf	55,000
G3030 Storm Drainage			
334000 Stormwater Utilities Site Derenzo ph 1 drainage	1.00 ls	140,000.00 /ls	<u>140,000</u>
334000 Stormwater Utilities		/gsf	140,000
G3030 Storm Drainage	408,500.00 gsf	0.34 /gsf	140,000
G3040 Heating Distribution			
335000 E/B for Gas Site Derenzo ph 1 gas e/b	1.00 ls	45,000.00 /ls	<u>45,000</u>
335000 E/B for Gas		/gsf	45,000
G3040 Heating Distribution	408,500.00 gsf	0.11 /gsf	45,000
G30 Site Civil/Mechanical Utilities	408,500.00 gsf	8.66 /gsf	3,537,453
G40 Site Electrical Utilities			
G40 Electrical Utilities			
110615 Audiovisual Systems - Theater <i>Ampitheater Lab devices, cabling, power, and equipment</i>	0.00 ea		/ea
260099 Electric EBP#2 Wayne J Griffin	1.00 ls	187,200.00 /ls	187,200



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
260099 Electric EBP#2		/gsf	187,200
260508 Site Electric			
Feeder (PVC/CU) - 200A [switchboard to fire pump controller]	40.00 lf	30.47 /lf	1,219
Feeder (PVC/CU) - 225A [generator to fire pump controller]	360.00 lf	36.28 /lf	13,062
Feeder (PVC/CU) - 400A [generator to ATS-LRS]	360.00 lf	60.90 /lf	21,924
Feeder (PVC/CU) - 400A [generator to ATS-E]	360.00 lf	60.90 /lf	21,924
Feeder (PVC/CU) - 3000A [generator to ATS-OS-C]	365.00 lf	568.29 /lf	207,426
Feeder (PVC/CU) - 3000A [generator to ATS-OS-E]	365.00 lf	568.29 /lf	207,426
Feeder (PVC/AL) - 4000A [secondary]	60.00 lf	814.36 /lf	48,862
Empty conduit - sch 40 PVC: 2 x 2" [future E.V.]	2,000.00 lf	12.82 /lf	25,644
Empty conduit - sch 40 PVC: 2 x 2" [future P.V.]	500.00 lf	12.82 /lf	6,411
Empty conduit - sch 40 PVC: 2 x 4" [secondary]	60.00 lf	19.98 /lf	1,199
Empty conduit - sch 40 PVC: 2 x 4" [spare]	350.00 lf	19.98 /lf	6,993
Empty conduit - sch 40 PVC: 4 x 4"	400.00 lf	38.87 /lf	15,548
Empty conduit - sch 40 PVC: 12 x 4" [secondary]	60.00 lf	76.24 /lf	4,574
Empty conduit - GRC - 3" - HH circuitry	971.00 lf	51.56 /lf	50,061
Magnetic warning tape - 1/8"	7,500.00 lf	5.08 /lf	38,089
Connect to existing Utility Co. manhole	1.00 ea	2,705.64 /ea	2,706
Electric manhole - 6'x12x7'	4.00 ea	7,668.88 /ea	30,676
Cast iron manhole frame/cover, 32"D x 6'H grade rings	4.00 ea	1,310.20 /ea	5,241
Site lighting handhole and cover - 2'x2'x3'	88.00 ea	1,092.96 /ea	96,180
Power handhole and cover - 4'x4'x4'	8.00 ea	1,480.60 /ea	11,845
Utility meter sockets (meter by Util. Co.)	5.00 ea	346.73 /ea	1,734
Transclosures - 4'W x 4'L x 4'D (N3R)	2.00 ea	10,071.84 /ea	20,144
260508 Site Electric		/gsf	838,886
260583 Equipment Wiring			
Electric vehicle charging station / dual pedestal / cable mgmt.	10.00 ea	11,414.88 /ea	114,149
260583 Equipment Wiring		/gsf	114,149
262700 Distribution Equipment			
<i>Transformer testing and start-up</i>	0.00 ea	/ea	
<i>Transformer rigging and setting</i>	0.00 ea	/ea	
262705 Distribution Feeders			
Feeder (PVC/CU) - 40A [EV car charging stations]	1,200.00 lf	7.82 /lf	9,379
262705 Distribution Feeders		/gsf	9,379
265098 Sports Lighting			
Sports lighting controllers	2.00 ea	2,778.88 /ea	5,558
Feeder (PVC/CU) - 250A [sports lighting controllers]	837.00 lf	34.26 /lf	28,678
<i>Sports lighting pad mount transformer - 300KVA/15KV - XM</i>	0.00 ea	/ea	
265098 Sports Lighting		/gsf	34,236
265600 Exterior Lighting			
SW05 - Wall Bracket Wallwasher [B]	91.00 lf	386.49 /lf	35,171
SW08 - Linear Forward Throw [B]	549.00 lf	133.49 /lf	73,286
PT01-2: single 4,000LM Type II fixture on 14' pole [B]	9.00 ea	2,950.00 /ea	26,550
PT02-2: single 4,000LM Type II fixture on 14' pole [B]	43.00 ea	2,950.00 /ea	126,850
PT01-3: single 20,000LM Type III fixture on 30' pole [B]	1.00 ea	4,358.01 /ea	4,358
PT01-23: twin back to back 20,000LM Type III fixture on 30' pole [B]	3.00 ea	3,714.02 /ea	11,142
PT02-3: single 4,000LM Type II fixture on 14' pole [B]	3.00 ea	2,950.00 /ea	8,850
PT02-4: single 4,000LMN Type IV fixture on 14' pole [B]	3.00 ea	2,950.00 /ea	8,850



Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
265600 Exterior Lighting			
PT02-23: twin back to back 20,000LM Type III fixture on 30' pole [B]	4.00 ea	3,714.00 /ea	14,856
PT03: 12,000LM Type V fixture pedestrian multi-function pylon [B]	0.00 ea	/ea	
PT03: 12,000LM Type V fixture pedestrian - no multifunction	34.00 ea	3,150.00 /ea	107,100
RG02: 2,000LM in ground tree uplight [B]	8.00 ea	1,803.66 /ea	14,429
RG01: 2,000LM LED flagpole spot [B]	4.00 ea	1,514.21 /ea	6,057
3/4" PVC - 20A (2#12 & #12G)	4,500.00 lf	8.53 /lf	38,401
1" PVC - 30A (3#8 & #10G)	7,500.00 lf	11.12 /lf	83,374
265600 Exterior Lighting		/gsf	559,274
270001 Voice/Data/CATV			
Empty conduit (sch 40 PVC) - 1 x 4" [technology]	350.00 lf	11.18 /lf	3,914
Empty conduit (sch 40 PVC) - 4 x 4" [technology]	380.00 lf	38.87 /lf	14,771
Communications utility pole conduit riser (GRC - 4"C)	10.00 ea	2,705.64 /ea	27,056
Telecom handhole and cover - 4' x 4'	3.00 ea	1,639.44 /ea	4,918
270001 Voice/Data/CATV		/gsf	50,659
282000 Video Surveillance			
Exterior camera - 180 deg (WP housings / PoE Injectors / fiber converters)	3.00 ea	2,278.25 /ea	6,835
Exterior camera - 270 deg (WP housings / PoE Injectors / fiber converters)	12.00 ea	2,778.25 /ea	33,339
Exterior camera - fixed (WP housings / PoE Injectors / fiber converters)	5.00 ea	2,078.25 /ea	10,391
Video surveillance cable (EMT)	3,425.00 lf	9.91 /lf	33,956
282000 Video Surveillance		/gsf	84,521
321319 Footings For PV			
Concrete footings for PV panels - West parking lot	1.00 ls	47,250.00 /ls	47,250
321319 Footings For PV		/gsf	47,250
321825 Sport Fields			
Softball field scoreboard	1.00 ea	27,957.97 /ea	27,958
Baseball /soccer combo score board	1.00 ea	27,958.05 /ea	27,958
321825 Sport Fields		/gsf	55,916
336000 Excavation/Bkfl and Lightpole Bases for Electric			
Excavation / backfill for site lighting - ph 2-4	12,000.00 lf	18.00 /lf	216,000
Site Derenzo ph 1 elect duct banks and e/b	1.00 ls	165,000.00 /ls	165,000
Excavation / backfill for electrical services to Stadium Toilet Building	345.00 lf	27.50 /lf	9,488
Excavation / backfill for Teleom services	254.00 lf	40.00 /lf	10,160
Excavation / backfill for PV array - West Parking	600.00 lf	27.50 /lf	16,500
Excavation / backfill for PV array - Rear Stadium	1,000.00 lf	27.50 /lf	27,500
Emergency Generator pad	1.00 ea	5,000.00 /ea	5,000
Electric hand hole - 13"W x 24"L x 18" D- Quazite PG3048DA36)	20.00 ea	880.00 /ea	17,600
E/b for electric handholes - ph 2-4	4.00 ea	1,980.00 /ea	7,920
336000 Excavation/Bkfl and Lightpole Bases for Electric		/gsf	475,168
336020 Light Pole Bases			
Light pole bases - precast conc 24" dia. x 20'-0" (Stadium Lights)	12.00 ea	20,000.00 /ea	240,000
Light Pole Bases - precast conc PT1 24" dia. x 6'-0" - ph 1	3.00 ea	1,200.00 /ea	3,600
Light Bollard Bases - precast conc PT2 24" dia. x 4'-0" - ph 1	29.00 ea	1,200.00 /ea	34,800
Lightbollard bases - precast conc PT3 24" dia. x ph 1	5.00 ea	950.00 /ea	4,750
Light Pole Bases - precast conc PT1 24" dia. x 6'-0" - ph 2-4	7.00 ea	1,200.00 /ea	8,400
Light Pole Bases - precast conc PT2 24" dia. x 4'-0" - ph 2-4	26.00 ea	1,200.00 /ea	31,200
Light bollard bases - precast conc PT3 24" dia. x ph 2-4	14.00 ea	950.00 /ea	13,300



CONSIGLI
Est. 1905

Arlington High School

8/14/2020

90% CD Estimate
MSBA Project # 2015-0010-0505

Spreadsheet Level	Takeoff Quantity	Total Cost/Unit	Total Amount
336020 Light Pole Bases		/gsf	336,050
G40 Electrical Utilities	408,500.00 gsf	6.84 /gsf	2,792,687
G40 Site Electrical Utilities	408,500.00 gsf	6.84 /gsf	2,792,687
G Sitework	408,500.00 gsf	52.48 /gsf	21,438,997



Estimate Totals

Description	Amount	Totals	Rate	Cost per Unit
Non-trade sub bonds	1,205,090		1.200 %	2.950 /SF
Subtotal	1,205,090	187,672,531		459.419 /SF
Phasing	650,000			1.591 /SF
Design/Estimate Contingency-Awarded Subs				
Design & Estimating Contingency - Other	3,999,006		2.500 %	9.789 /SF
Subtotal	4,649,006	188,877,621		462.369 /SF
Escalation - Awarded Subs				
Escalation - Other	7,998,012		5.000 %	19.579 /SF
Subtotal	7,998,012	201,524,639		493.328 /SF
General Conditions (C.1-3)	11,931,225			29.207 /SF
General Requirements (C.5-6)	4,872,887			11.929 /SF
Covid GR Impact Costs	600,000			1.469 /SF
P&P Bond	2,251,695			5.512 /SF
Builder's Risk (NIC)				
GL Insurance	2,588,155			6.336 /SF
Subtotal	22,243,962	223,768,601		547.781 /SF
Contractor's Contingency	5,594,215		2.500 %	13.695 /SF
Fee	4,705,737			11.520 /SF
Total		234,068,553		572.995 /SF



90% Construction Document Estimate

Arlington High School
Arlington, MA

MSBA Project Number: 201500100505

PM&C LLC
20 Downer Avenue, Suite 5
Hingham, MA 02043
(T) 781-740-8007
(F) 781-740-1012

Prepared for:

HMFH

August 17, 2020



Arlington High School

Arlington, MA

17-Aug-20

90% Construction Document Estimate

INTRODUCTION

This 90% Construction Document cost estimate was produced from drawings and specifications, dated July 22, 2020 prepared by HMFH and their design team.

This estimate includes all direct construction costs, construction managers overhead and profit and design contingency. Cost escalation assumes start dates indicated.

Bidding conditions are expected to be public bidding under 149a of the Massachusetts General Laws to pre-qualified construction managers, and pre-qualified sub-contractors, open specifications for materials and manufacturers.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

- All professional fees and insurance
- Building Permit costs
- Removal of existing PV systems
- Removal of contaminated soils
- Rock excavation
- Land acquisition, feasibility, and financing costs
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items (e.g. draperies, furniture and equipment)
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)

Notes per Summary sheets

- ¹ Costs from UEC report dated 4.1.20 (excludes design and monitoring services)



Arlington High School
Arlington, MA

17-Aug-20

90% Construction Document Estimate

MAIN CONSTRUCTION COST SUMMARY

	Gross Floor Area	\$/sf	Estimated Construction Cost
NEW CONSTRUCTION			
NEW SCHOOL (School 408,590 + Athletic Toilet Facility 800)	409,390	\$353.35	\$144,658,055
EARLY BID PACKAGE 2			\$8,810,430
EARLY BID PACKAGE 3			\$720,288
EARLY BID PACKAGE 4			\$18,335,575
Paramenter School Renovation/Swing space costs			Below the Line
SITEWORK			\$15,978,230
SUB-TOTAL	409,390	\$460.45	\$188,502,578
DESIGN AND PRICING CONTINGENCY	2.5%		\$4,015,907
PHASING			\$650,000
ESCALATION			
Phase 1 - July 1, 2020 Start	0.00%		\$0
Phase 2 - January 1, 2022 Start	6.80%		\$4,664,235
Phase 3 - July 1, 2023 Start	10.20%		\$2,441,350
Phase 4 - July 1, 2024 Start	12.00%		\$1,118,029
SUB-TOTAL			\$201,392,099
NON TRADES SUB BONDS			Included In Rates
GENERAL CONDITIONS			\$11,931,225
GENERAL REQUIREMENTS			\$4,872,887
COVID GR IMPACT			\$600,000
BONDS	0.75%		\$2,251,695
INSURANCE	1.10%		\$2,588,155
BUILDERS RISK			by owner
PERMIT			NIC
SUB-TOTAL			\$223,636,061
OVERHEAD AND FEE			\$4,705,737
GMP CONTINGENCY	2.5%		\$5,590,902
PHASING			Included
TOTAL OF ALL CONSTRUCTION	409,390	\$571.42	\$233,932,700
Paramenter School Renovation		EBP #1	\$2,580,810

REMAINING TRADE/NON-TRADE BIDS

TRADE BIDS

NON TRADE BIDS

NEW SCHOOL BUILDING

DIV. 1 EXISTING CONDITIONS

015200 Trade Support \$908,600

DIV. 2 EXISTING CONDITIONS

024100 Site Demolition \$420,302
 024400 Demolition and Abatement

DIV. 3 CONCRETE

030513 Concrete Sealers \$54,655
 033000 Cast In Place Concrete \$9,442,834
 033650 Polished Concrete \$507,398

DIV. 4 MASONRY

042000 Unit Masonry \$7,093,545

DIV. 5 METALS

051200 Structural Steel Framing \$9,770,065
055000 Metal Fabrications \$2,226,698

DIV. 6 WOODS, PLASTICS & COMPOSITES

061000 Rough Carpentry \$1,200,298
 062000 Finish Carpentry \$2,004,280
 066400 FRP \$73,500

DIV. 7 THERMAL & MOISTURE PROTECTION

070001 Waterproofing, Dampproofing and Caulk	\$2,428,056
070002 Roofing	\$2,828,740
072100 Thermal Insulation	\$183,527
074200 Metal Wall Panels	\$1,651,973
075419 PVC Roofing	\$1,021,050
078100 Applied Fireproofing	\$75,000
078400 Firestopping	\$185,760
079513 Construction & Expansion Joints	

DIV. 8 DOORS & WINDOWS

080001 Aluminum Windows	\$6,180,045
080002 Glazing	\$901,448
081113 Doors, Frames and Hardware	\$1,784,825
083100 Access Doors and Panels	\$20,000
083300 Overhead Doors	\$81,221
084413 Glazed Aluminum Curtainwall	\$308,060
086300 Metal Framed Skylights	\$226,868
089000 Louvers and Vents	\$60,000

DIV. 9 FINISHES

090002 Tile	\$1,459,954
090003 Acoustical Tile	\$3,135,178
090005 Resilient Flooring	\$1,518,691
090007 Painting	\$1,440,047
092900 GWB, Lath and Plastering	\$13,486,806
096466 Wood Athletic Flooring	\$690,792
096625 Precast Terrazzo	\$47,875
096700 Fluid Applied Floor	\$187,993

REMAINING TRADE/NON-TRADE BIDS

TRADE BIDS

NON TRADE BIDS

NEW SCHOOL BUILDING

096800 Carpet	\$270,049
098414 Acoustic Panels	\$789,500

DIV. 10 SPECIALTIES

101100 Markerboards	\$375,820
101400 Signage	\$353,970
101500 Photoluminescent Safety Markings	\$74,400
102113 Toilet Compartments	\$170,050
102228 Folding Partition	\$47,600
102813 Toilet Accessories	\$158,790
104400 Fire Protection Specialties	\$48,300
105113 Metal Lockers	\$696,950
107113 Sun Control Devices	

DIV. 11 EQUIPMENT

111300 Loading Dock Equipment	\$5,000
114000 Foodservice Equipment	\$700,848
114500 Appliances	\$144,600
116000 Laboratory Equipment	\$227,500
116100 Theatre Equipment	\$844,080
116623 Gymnasium Equipment	\$428,660
119000 Miscellaneous Equipment	\$5,000

DIV. 12 FURNISHINGS

122400 Window Shades	\$265,402
123000 Casework	\$2,113,850
124813 Entrance Floor Mats and Frames	\$66,300
126100 Fixed Audience Seating	\$331,650
126613 Telescoping Bleachers	\$344,700

DIV. 13 SPECIAL CONSTRUCTION

130000 Temporary Work	\$2,343,141
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DIV. 14 CONVEYING SYSTEMS

142424 Holeless Hydraulic Elevators	\$680,000
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DIV. 21 FIRE SUPPRESSION

210000 Fire Suppression	\$2,857,980
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DIV. 22 PLUMBING

220000 Plumbing	\$5,294,370
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DIV. 23 HVAC

230000 HVAC	\$28,072,942
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DIV. 26 ELECTRICAL

260000 Electrical	
270000 Communications	
280000 Electronic Safety and Equipment	

\$21,280,905
DIV. 31 EARTHWORK

311000 Site Preparation & Clearing	\$583,300
312000 Earthwork	\$5,461,054
312115 Sub-slab Ventilation System	

REMAINING TRADE/NON-TRADE BIDS

TRADE BIDS

NON TRADE BIDS

NEW SCHOOL BUILDING

312500	Erosion Control	\$166,000
315000	Temporary Excavation Support and Protection	
316213	PIFs	\$2,777,079
316615	Helical Piles	\$84,000
316616	Permanent Soldier Pile Wall	
316700	Rigid Inclusions	

DIV. 32 EXTERIOR IMPROVEMENTS

320000	Paving, curbing & Edging	\$1,524,450
323119	Site Improvements	\$2,185,705
321800	Synthetic Field Surfacing	\$1,823,920
329900	Landscaping	\$1,186,402

DIV. 33 UTILITIES

330000	Enabling Utilities	
331000	Water Distribution	\$212,790
333000	Sanitary Sewerage	\$571,475
334000	Storm Drainage Systems	\$1,461,669

SUBTOTAL DIRECT (TRADE) COST	\$87,398,599	\$73,237,686
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CONSTRUCTION COST SUMMARY IN CSI FORMAT													
	NEW SCHOOL	Total	TOILET FACILITY	Total	SITEWORK	Total	EBP #2	Total	EBP #3	Total	EBP #4	Total	TOTAL PROJECT
	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal
NEW SCHOOL BUILDING													
DIV. 1 EXISTING CONDITIONS		\$908,600											\$908,600
015200 Trade Support	\$908,600												\$908,600
DIV. 2 EXISTING CONDITIONS							\$420,302						\$7,363,877
024100 Site Demolition							\$420,302						\$420,302
024400 Demolition and Abatement													\$6,943,575
DIV. 3 CONCRETE		\$8,542,657			\$56,520		\$1,405,710						\$13,852,987
030513 Concrete Sealers	\$53,525		\$1,130		\$53,390		\$1,405,710						\$54,655
033000 Cast In Place Concrete	\$7,981,734												\$13,290,934
033650 Polished Concrete	\$507,398												\$507,398
DIV. 4 MASONRY		\$6,945,361			\$148,184								\$7,093,545
042000 Unit Masonry	\$6,945,361		\$148,184										
DIV. 5 METALS		\$11,993,883			\$2,880								\$19,257,263
051200 Structural Steel Framing	\$9,770,065												\$17,030,565
055000 Metal Fabrications	\$2,223,818												\$2,226,698
DIV. 6 WOODS, PLASTICS & COMPOSITES		\$3,260,958			\$17,120								\$3,644,838
061000 Rough Carpentry	\$1,183,178												\$1,554,298
062000 Finish Carpentry	\$2,004,280												\$2,017,040
066400 FRP	\$73,500												\$73,500
DIV. 7 THERMAL & MOISTURE PROTECTION		\$8,338,374			\$35,732								\$8,374,106
070001 Waterproofing, Dampproofing and Caulking	\$2,411,284		\$16,772										\$2,428,056
070002 Roofing	\$2,815,540												\$2,828,740
072100 Thermal Insulation	\$177,767												\$183,527
074200 Metal Wall Panels	\$1,651,973												\$1,651,973
075419 PVC Roofing													
078100 Applied Fireproofing	\$1,021,050												\$1,021,050
078400 Firestopping	\$75,000												\$75,000
079513 Construction & Expansion Joints	\$185,760												\$185,760
DIV. 8 DOORS & WINDOWS		\$9,550,067			\$12,400								\$9,605,727
080001 Aluminum Windows	\$6,180,045												\$6,180,045
080002 Glazing	\$901,448												\$910,448
081113 Doors, Frames and Hardware	\$1,777,625												\$1,819,085
083100 Access Doors and Panels	\$20,000												\$20,000
083300 Overhead Doors	\$76,021												\$81,221
084413 Glazed Aluminum Curtainwall	\$308,060												\$308,060
086300 Metal Framed Skylights	\$226,868												\$226,868
089000 Louvers and Vents	\$60,000												\$60,000
DIV. 9 FINISHES		\$23,010,655			\$16,230								\$23,180,475
090002 Tile	\$1,459,954												\$1,459,954
090003 Acoustical Tile	\$3,135,178												\$3,137,878
090005 Resilient Flooring	\$1,518,691												\$1,552,681
090007 Painting	\$1,432,292												\$1,477,847
092900 GWB, Lathe and Plastering	\$13,478,331												\$13,505,906
096466 Wood Athletic Flooring	\$690,792												\$690,792
096625 Precast Terrazzo	\$47,875												\$47,875
096700 Fluid Applied Floor	\$187,993												\$187,993
096800 Carpet	\$270,049												\$270,049
098414 Acoustic Panels	\$789,500												\$789,500
DIV. 10 SPECIALTIES		\$1,894,390			\$31,490								\$1,955,188
101100 Markerboards	\$375,820												\$405,128
101400 Signage	\$342,220												\$353,970
101500 Photoluminescent Safety Markings	\$74,400												\$74,400
102113 Toilet Compartments	\$159,400												\$170,050
102228 Folding Partition	\$47,600												\$47,600
102813 Toilet Accessories	\$150,400												\$158,790
104400 Fire Protection Specialties	\$47,600												\$48,300
105113 Metal Lockers	\$696,950												\$696,950
107113 Sun Control Devices													
DIV. 11 EQUIPMENT		\$2,355,688											\$2,355,688
111300 Loading Dock Equipment	\$5,000												\$5,000
114000 Foodservice Equipment	\$700,848												\$700,848
114500 Appliances	\$144,600												\$144,600
116000 Laboratory Equipment	\$227,500												\$227,500
116100 Theatre Equipment	\$844,080												\$844,080
116623 Gymnasium Equipment	\$428,660												\$428,660
119000 Miscellaneous Equipment	\$5,000												\$5,000
DIV. 12 FURNISHINGS		\$3,121,902											\$3,121,902

CONSTRUCTION COST SUMMARY IN CSI FORMAT																					
	Subtotal	NEW SCHOOL	Total	Subtotal	TOILET FACILITY	Total	Subtotal	SITEWORK	Total	Subtotal	EBP #2	Total	Subtotal	EBP #3	Total	Subtotal	EBP #4	Total	Subtotal	TOTAL PROJECT	Total
NEW SCHOOL BUILDING																					
122400 Window Shades		\$265,402																		\$265,402	
123000 Casing		\$2,113,850																		\$2,113,850	
124813 Entrance Floor Mats and Frames		\$66,300																		\$66,300	
126100 Fixed Audience Seating		\$331,650																		\$331,650	
126613 Telescoping Bleachers		\$344,700																		\$344,700	
DIV. 13 SPECIAL CONSTRUCTION		\$2,343,141																		\$2,343,141	
130000 Temporary Work		\$2,343,141																		\$2,343,141	
DIV. 14 CONVEYING SYSTEMS		\$680,000																		\$680,000	
142424 Holeless Hydraulic Elevators		\$680,000																		\$680,000	
DIV. 21 FIRE SUPPRESSION		\$2,857,980																		\$2,982,980	
210000 Fire Suppression		\$2,857,980																		\$2,982,980	
DIV. 22 PLUMBING		\$5,194,484				\$99,886														\$5,462,150	
220000 Plumbing		\$5,194,484				\$99,886														\$5,462,150	
DIV. 23 HVAC		\$28,039,442				\$33,500														\$28,239,942	
230000 HVAC		\$28,039,442				\$33,500														\$28,239,942	
DIV. 26 ELECTRICAL		\$19,714,937				\$143,077					\$1,422,891									\$21,662,995	
260000 Electrical		\$16,202,217				\$143,077					\$1,422,891									\$18,150,275	
270000 Communications		\$2,200,079																		\$2,200,079	
280000 Electronic Safety and Equipment		\$1,312,641																		\$1,312,641	
DIV. 31 EARTHWORK		\$5,216,182				\$92,335					\$3,762,916				\$8,379,330					\$17,450,763	
310000 Site Preparation & Clearing																				\$767,630	
312000 Earthwork		\$2,439,103				\$8,335					\$583,300				\$184,330					\$13,656,054	
312115 Sub-slab Ventilation System																					
312500 Erosion Control																				\$166,000	
315000 Temporary Excavation Support and Protection																					
316123 PIFs		\$2,777,079																		\$2,777,079	
316615 Helical Piles																				\$84,000	
316616 Permanent Soldier Pile Wall																					
316700 Rigid Inclusions																					
DIV. 32 EXTERIOR IMPROVEMENTS															\$6,720,477					\$6,720,477	
320000 Paving, curbing & Edging																				\$1,524,450	
323119 Site Improvements																				\$2,185,705	
321800 Synthetic Field Surfacing																				\$1,823,920	
329900 Landscaping																				\$1,186,402	
DIV. 33 UTILITIES															\$2,245,934					\$2,245,934	
330000 Enabling Utilities																					
331000 Water Distribution																				\$212,790	
333000 Sanitary Sewerage																				\$571,475	
334000 Storm Drainage Systems																				\$1,461,669	
SUBTOTAL DIRECT (TRADE) COST		\$143,968,701				\$689,354			\$15,978,230			\$8,810,430			\$720,288			\$18,335,575		\$188,502,578	

CONSTRUCTION COST SUMMARY							
BUILDING SYSTEM	SUB-TOTAL	SUB-TOTAL	SUB-TOTAL	SUB-TOTAL	TOTAL	\$/SF	%
NEW CONSTRUCTION INCLUDING STADIUM TOILET FACILITY							
A10 FOUNDATIONS							
A1010 Standard Foundations	\$4,058,485	\$41,357	\$960,000	\$1,900,000			
A1020 Special Foundations	\$2,979,079	\$84,000	\$2,991,000	\$300,000			
A1030 Lowest Floor Construction	\$4,745,916	\$22,368	\$275,000	\$580,000	\$18,937,205	\$46.26	11.2%
A20 BASEMENT CONSTRUCTION							
A2010 Basement Excavation	\$0						
A2020 Basement Walls	\$0						
					\$0	\$0.00	0.0%
B10 SUPERSTRUCTURE							
B1010 Upper Floor Construction	\$11,502,969	\$0		\$7,980,500			
B1020 Roof Construction	\$1,039,815	\$14,400		\$270,000	\$20,807,684	\$50.83	12.4%
B20 EXTERIOR CLOSURE							
B2010 Exterior Walls	\$13,057,321	\$137,510					
B2020 Windows	\$6,208,500	\$0					
B2030 Exterior Doors	\$348,514	\$5,452					
					\$19,757,297	\$48.26	11.7%
B30 ROOFING							
B3010 Roof Coverings	\$3,125,640	\$16,560					
B3020 Roof Openings	\$327,238	\$0					
					\$3,469,438	\$8.47	2.1%
C10 INTERIOR CONSTRUCTION							
C1010 Partitions	\$11,873,180	\$46,424					
C1020 Interior Doors	\$2,357,312	\$8,520					
C1030 Specialties/Millwork	\$3,937,212	\$19,740					
					\$18,242,388	\$44.56	10.8%
C20 STAIRCASES							
C2010 Stair Construction	\$966,200	\$0		\$60,000			
C2020 Stair Finishes	\$410,145	\$0					
					\$1,436,345	\$3.51	0.9%
C30 INTERIOR FINISHES							
C3010 Wall Finishes	\$3,844,724	\$6,390					
C3020 Floor Finishes	\$3,543,308	\$1,130					
C3030 Ceiling Finishes	\$5,335,569	\$9,040					
					\$12,740,161	\$31.12	7.6%
D10 CONVEYING SYSTEMS							
D1010 Elevator	\$680,000	\$0					
					\$680,000	\$1.66	0.4%
D20 PLUMBING							
D20 Plumbing	\$5,016,834	\$99,886	\$118,900				
					\$5,235,620	\$12.79	3.1%
D30 HVAC							
D30 HVAC	\$27,601,992	\$33,500					
					\$27,635,492	\$67.50	16.4%
D40 FIRE PROTECTION							
D40 Fire Protection	\$2,709,980	\$0	\$125,000				
					\$2,834,980	\$6.92	1.7%

BUILDING SYSTEM	CONSTRUCTION COST SUMMARY						TOTAL	\$/SF	%
	SUB-TOTAL	SUB-TOTAL	SUB-TOTAL	SUB-TOTAL	SUB-TOTAL	SUB-TOTAL			
NEW CONSTRUCTION INCLUDING STADIUM TOILET FACILITY									
D50 ELECTRICAL D5010 Complete System	\$19,564,937	\$143,077					\$19,708,014	\$48.14	11.7%
E10 EQUIPMENT E10 Equipment	\$3,032,038	\$0					\$3,032,038	\$7.41	1.8%
E20 FURNISHINGS E2010 Fixed Furnishings E2020 Movable Furnishings	\$2,445,552 NIC	\$0					\$2,445,552	\$5.97	1.5%
F10 SPECIAL CONSTRUCTION F10 Special Construction	\$3,256,241	\$0	\$184,330	\$720,288	\$354,000	\$4,514,859	\$11.05	2.7%	
F20 HAZMAT REMOVALS F2010 Building Elements Demolition F2020 Hazardous Components Abatement	\$0 \$0	\$0 \$0			\$3,027,125 \$3,863,950	\$6,891,075	\$16.87	4.1%	
TOTAL DIRECT BUILDING COST (Trade Costs)	\$143,968,701	\$689,354	\$0	\$4,654,230	\$720,288	\$18,335,575	\$168,368,148	\$412.07	100.0%
G10		\$4,101,652	\$1,302,000				\$5,403,652		
G20		\$9,088,413	\$147,000				\$9,235,413		
G30		\$1,048,624	\$2,355,000				\$3,403,624		
G40		\$1,710,341	\$352,200				\$2,062,541		
TOTAL DIRECT SITE COST (Trade Costs)	\$0	\$0	\$15,949,030	\$4,156,200	\$0	\$0	\$20,105,230	\$49.21	11.9%
TOTAL DIRECT SITE COST (Trade Costs)	\$143,968,701	\$689,354	\$15,949,030	\$8,810,430	\$720,288	\$18,335,575	\$188,473,378	\$461.28	111.9%

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION
GROSS FLOOR AREA CALCULATION

Ground Floor	81,020
First Floor	14,410
Second Floor	131,370
Third floor	74,570
Fourth floor	58,750
Fifth floor	48,020
Roof	460

TOTAL GROSS FLOOR AREA (GFA)

408,600 sf

A10 FOUNDATIONS
A1010 STANDARD FOUNDATIONS
033000 CONCRETE

Continuous Footings/Grade Beams	991	CY
Foundation Walls	68	CY
Retaining Walls	856	CY
Spread Footings	29	CY
Pile Caps	1,225	CY
Structural Slabs	3,311	CY
Slab Thickening	1,013	CY
Total Foundation Concrete	7,493	CY
Total Rebar	784	tons

PHASE 1

EBP #4

PHASES 2 + 3
Grade Beams

Formwork	22,152	sf	15.00	332,280
Re-bar	437,564	lbs.	1.50	656,346
Concrete material; 4000 psi	883	cy	148.00	130,684
Placing concrete	883	cy	120.00	105,960
Retaining walls				

Formwork

Formwork	22,030	sf	20.00	440,600
Re-bar	126,673	lbs.	1.50	190,010
Concrete material; 4000 psi	856	cy	148.00	126,688
Placing concrete	856	cy	120.00	102,720
Form shelf	400	lf	10.00	4,000
Pile Caps				

Formwork

Formwork	22,387	sf	18.00	402,966
Re-bar	133,886	lbs.	1.50	200,829
Concrete material; 4,000 psi	1,225	cy	148.00	181,300
Placing concrete	1,225	cy	120.00	147,000
Set anchor bolts grout plates	253	ea	165.00	41,745

Spread Footings

Formwork	363	sf	18.00	EBP #4
Re-bar	2,634	lbs.	1.50	EBP #4
Concrete material; 4,000 psi	29	cy	148.00	EBP #4
Placing concrete	29	cy	120.00	EBP #4
Set anchor bolts grout plates	5	ea	165.00	EBP #4

Strip Footings @ Phases2/3

Formwork	580	sf	15.00	8,700
Re-bar	1,450	lbs.	1.50	2,175
Concrete material; 4,000 psi	79	cy	148.00	11,692
Placing concrete	79	cy	120.00	9,480
Foundation walls				

Formwork

Formwork	3,480	sf	20.00	69,600
Re-bar	7,830	lbs.	1.50	11,745
Concrete material; 4,000 psi	68	cy	148.00	10,064
Placing concrete	68	cy	120.00	8,160

070001 WATERPROOFING, DAMPROOFING AND CAULKING

Waterproofing at retaining wall	11,015	sf	8.50	93,628
Waterproofing at plaza deck				w/roofing
Damproofing foundation wall and footing				NR

072100 THERMAL INSULATION

Insulation at foundation walls	16,915	sf	3.00	50,745
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312000 EARTHWORK

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

Assumed below excavation is in clean fill

PHASE 1

Strip Footings/Grade Beams

Excavation				w/ EBP#2
Store on site				w/ EBP#2
Backfill with existing material				w/ EBP#2
<u>Spread footings</u>				
Excavation				w/ EBP#2
Store on site				w/ EBP#2
Backfill with existing material				w/ EBP#2
Dewatering for foundation work				w/ EBP#2

PHASES 2 + 3

Grade Beams/Strip Footings

Excavation	3,621	cy	25.00	90,525
Store on site	3,621	cy	12.00	43,452
Backfill with existing material	2,591	cy	16.00	41,456
<u>Retaining walls</u>				
Excavation	4,630	cy	22.00	101,860
Store on site	4,630	cy	12.00	55,560
Backfill with existing material	3,774	cy	16.00	60,384
<u>Pile Caps</u>				
Excavation	3,543	cy	25.00	88,575
Store on site	3,543	cy	12.00	42,516
Backfill with existing material	2,318	cy	16.00	37,088

Perimeter drain at retaining walls	748	lf	24.00	17,952
Dewatering for foundation work	1	ls	140,000.00	140,000
SUBTOTAL				4,058,485

A1020 SPECIAL FOUNDATIONS

Excavation			w/ EBP#2	
Store on site			w/ EBP#2	
Backfill with existing material			w/ EBP#2	
Concrete Deadman; 3 x 8 x 470 lf			w/ EBP#4	
SOE between SP 1 and 23				
Excavation; 3ft dia at SP			w/ EBP#2	
Allowance for disposal			w/ EBP#2	
Backfill with lean concrete			w/ EBP#2	
Backfill with flowable fill			w/ EBP#2	
SP and lagging			w/ EBP#2	
Tieback			w/ EBP#2	
Premium for location of existing building			w/ EBP#2	
SOE between SP 24 and 66				
Excavation; 3ft dia at SP			w/ EBP#2	
Allowance for disposal			w/ EBP#2	
Backfill with lean concrete			w/ EBP#2	
Backfill with flowable fill			w/ EBP#2	
SP and lagging			w/ EBP#2	
Tieback			w/ EBP#2	
Exposed concrete permanent face with finish			w/ EBP#2	
SOE, after Phase 1	101	cy	2,000.00	202,000

PHASE 1

RAPS foundation; includes rigid inclusions			w/ EBP#2
RAPS foundation			w/ EBP#2
RAPS foundation (future expansion)			w/ EBP#2

PHASES 2 + 3

Pile foundation			INCL	
Mobilization			INCL	
Load & Tension testing				
PIFS; 120 T; assumed 30 FT deep; at pile caps	531	loc	3,600.00	1,911,600
Obstructions, allow	1	ls	100,000.00	100,000
Piping for mitigation system; flat vent	144,430	sf	0.80	115,544
Vapor intrusion membrane, min 40-mil fluid applied HDPE	144,430	sf	4.50	649,935
SUBTOTAL				2,979,079

A1030 LOWEST FLOOR CONSTRUCTION

033000 CONCRETE

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
147	<u>Structural slab on grade, 10" thick</u>	24,750	sf				
148	Formwork	1,741	sf	12.00	20,892		
149	Rebar	210,375	lbs	1.50	315,563		
150	Concrete - 10" thick	799	cy	148.00	118,252		
151	Placing concrete	799	cy	90.00	71,910		
152	Finishing and curing concrete	24,750	sf	2.00	49,500		
153	<u>Structural slab on grade, 12" thick</u>	59,605	sf				
154	Formwork	1,741	sf	12.00	20,892		
155	Rebar	506,643	lbs	1.50	759,965		
156	Concrete - 12" thick	2,318	cy	148.00	343,064		
157	Placing concrete	2,318	cy	90.00	208,620		
158	Finishing and curing concrete	59,605	sf	2.00	119,210		
159	<u>Slab on grade, 6"</u>	4,150	sf				
160	Rebar reinforcement, #4 @ 12" oc	6,395	lbs	1.50	9,593		
161	Concrete - 6" thick	81	cy	148.00	11,988		
162	Placing concrete	81	cy	65.00	5,265		
163	Finishing and curing concrete	4,150	sf	3.50	14,525		
164	Sawcut full depth control joints	4,150	sf	0.22	913		
165	<u>Slab on grade, 4" - Crawl Space</u>	4,500	sf				
166	Rebar reinforcement, #4 @ 12" oc	6,935	lbs	1.50	10,403		
167	Concrete - 4" thick	58	cy	148.00	8,584		
168	Placing concrete	58	cy	65.00	3,770		
169	Finishing and curing concrete	4,500	sf	3.50	15,750		
170	Sawcut full depth control joints	4,500	sf	0.22	990		
171	<u>Slab on grade, 6", Phase 1</u>				EBP #4		
172	<u>Miscellaneous</u>						
173	Thickened slabs at pile locations	1,013	cy	500.00	506,500		
174	<u>Loading Area/Courtyard</u>						
175	<u>Structural slab on grade, 12" thick</u>	2,900	sf				
176	Formwork	255	sf	12.00	3,060		
177	Rebar	21,750	lbs	1.50	32,625		
178	Concrete - 12" thick	113	cy	148.00	16,724		
179	Placing concrete	113	cy	90.00	10,170		
180	Finishing and curing concrete	2,900	sf	2.00	5,800		
181	<u>Structural slab on grade, 10" thick</u>	3,900	sf				
182	Formwork	420	sf	12.00	5,040		
183	Rebar	33,150	lbs	1.50	49,725		
184	Concrete - 10" thick	126	cy	148.00	18,648		
185	Placing concrete	126	cy	90.00	11,340		
186	Finishing and curing concrete	3,900	sf	2.00	7,800		
187	<u>Miscellaneous</u>						
188	Topping slab for radiant heat	12,480	sf	10.00	124,800		
189	Elevator pit	2	ea	30,000.00	60,000		
190	Equipment pads	1	ls	20,000.00	20,000		
191	Slab depressions	1	ls	30,000.00	30,000		
192	<u>072100 THERMAL INSULATION</u>						
194	Rigid insulation, 2' at perimeter	5,720	sf	2.50	14,300		
196	<u>312000 EARTHWORK</u>						
197	<u>Phase one</u>						
198	Cut	411	cy	10.00	w/ EBP#2		
199	Store on site	411	cy	12.00	w/ EBP#2		
200	Backfill with existing material	411	cy	16.00	w/ EBP#2		
201	Fill - common fill material below bldg (per geotech)	4,089	cy	28.00	w/ EBP#2		
202	<u>Phase Two</u>						
203	Fill- common fill material below bldg (per geotech)	5,800	cy	28.00	162,400		
204	<u>Phase Three</u>						
205	Cut	7,300	cy	10.00	73,000		
206	Store on site	7,300	cy	12.00	87,600		
207	Backfill with existing material	1,900	cy	16.00	30,400		
209	Structural fill below Blackbox (Area E)	38	cy	45.00	1,710		
210	Compacted granular fill, 12" at Phases 2 & 3 (Phase 1 with EBP #2)	3,376	cy	45.00	151,920		
211	Compacted granular fill, 3" below footings	1	ls	200,000.00	w/ EBP#2		
212	Compact sub-grade at Phases 2 & 3 (Phase 1 with EBP #2)	91,155	sf	0.55	50,135		
214	Out of sequence work for working platforms	1	ls	100,000.00	100,000		
215	E+B for underslab piping at Phases 2 & 3 (Phase 1 with EBP #2)	5,050	lf	25.00	126,250		
216							

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

217	Material Disposal Costs; Quantity from Spec Section 312001 - 80% (20% carried with EBP #2)						
218	Less than RCS-1	1,280	ton	20.00	25,600		
219	Unlined Landfill	2,560	ton	48.00	122,880		
220	Unlined Landfill: geothermal drill spoils				NIC		
221	Asphalt batch plant	3,200	ton	53.00	169,600		
222	Out-of-State Subtitle D Landfill	1,280	ton	88.00	112,640		
223	Hazardous	1,280	ton	335.00	428,800		
224	Loading costs	9,600	ton	8.00	76,800		
225	SUBTOTAL						4,745,916

227	TOTAL - FOUNDATIONS	\$11,783,480
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A20 BASEMENT CONSTRUCTION

230	A2010 BASEMENT EXCAVATION						
233	No Work in this section						
234	SUBTOTAL						
235							
236	A2020 BASEMENT WALLS						
237	No Work in this section						
238	SUBTOTAL						
239							
240	TOTAL - BASEMENT CONSTRUCTION						\$0
241							

B10 SUPERSTRUCTURE

243	B1010 FLOOR CONSTRUCTION	12.24	lbs/sf				
245		2,500	tns				
246	033000 CONCRETE						
248	WWF reinforcement, 15% lap	213,785	sf	1.10	235,164		
249	Concrete topping to metal decking, 6-1/2" thick; normal weight	3,918	cy	148.00	579,864		
250	Place and finish concrete	185,900	sf	2.50	464,750		
251	Rebar to decks	55,770	lbs	1.32	73,616		
252	Premium for tiered seating at Auditorium balcony				EBP #4		
253	Sound isolation slab	4,375	sf	24.00	EBP #4		
254	Topping slab for radiant heat	3,090	sf	10.00	30,900		
255							
256	051200 STRUCTURAL STEEL FRAMING						
257	Beams / Columns / Bracing, tonnage provided - Phase 1				EBP #4		
258	Beams / Columns / Bracing, tonnage provided - Phase 2 & 3	2,500	tns	3,200.00	8,000,000		
259	Premium for HSS, 25%	625	tns	250.00	Included		
260	Metal floor decking; 2"	185,900	sf	4.00	743,600		
261	Shear studs	46,475	ea	3.80	176,605		
262	<u>Miscellaneous</u>						
263	Moment connections	189	ea	500.00	94,500		
264	Allowance for beam penetrations	1	ls	50,000.00	50,000		
265	<u>Miscellaneous</u>						
266	Structure to support salvaged facades	1	ls	50,000.00	50,000		
267	Premium for structure at Auditorium/Forum Seating	265	lf	180.00	EBP #4		
268	Premium for catwalk at performing arts	681	sf	60.00	40,860		
269	Premium for catwalks on hanger system at auditorium and stage; A2.8	1,521	sf	60.00	EBP #4		
270							
271	078400 FIREPROOFING/FIRESTOPPING						
272	Spray-applied fireproofing to beams and columns	291,820	sf	2.50	729,550		
273	Fire stopping	1	ls	75,000.00	75,000		
274	Intumescent paint to exposed beams	1	ls	10,000.00	10,000		
275							
276	079500 EXPANSION CONTROL						
277	Expansion joints	2,476	lf	60.00	148,560		
278	SUBTOTAL						11,502,969

B1020 ROOF CONSTRUCTION

280	B1020 ROOF CONSTRUCTION						
281	033000 CONCRETE						
283	WWF reinforcement, 15% lap	21,735	sf	1.10	23,909		
284	Concrete topping to metal decking, 6-1/2" thick; normal weight	189	cy	148.00	27,972		
285	Place and finish concrete	18,900	sf	2.50	47,250		
286	Rebar to decks	5,670	lbs	1.32	7,484		

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

288	051200 <i>STRUCTURAL STEEL FRAMING</i>						
289	Beams / Columns / Bracing				w/ B1010		
290	Premium for HSS				w/ B1010		
291	Open web joists	165	tns	3,200.00	w/ B1011		
292	1-1/2" Type WR Metal galvanized roof deck	49,300	sf	3.50	172,550		
293	2" Metal galvanized roof deck	8,950	sf	4.50	40,275		
294	3" acoustic Metal galvanized roof deck	34,100	sf	9.00	306,900		
295	2" Metal galvanized roof deck at plaza	9,950	sf	4.50	44,775		
296	<u>Miscellaneous</u>						
297	Moment connections	65	ea	500.00	w/ B1010		
298	Premium for exposed steel	1	ls	50,000.00	50,000		
299	Canopies; included				w/ B1010		
300							
301	078400 <i>FIREPROOFING/FIRESTOPPING</i>						
302	Spray-applied fireproofing to beams and deck	80,500	sf	3.00	241,500		
303	Intumescent paint to exposed beams	1	ls	40,000.00	40,000		
304							
305	079500 <i>EXPANSION CONTROL</i>						
306	Expansion joint	620	lf	60.00	37,200		
307	SUBTOTAL						1,039,815
308							
309	TOTAL - SUPERSTRUCTURE						\$12,542,784
310							
311							
312	B20 EXTERIOR CLOSURE						
313							
314	B2010 EXTERIOR WALLS			151,485	sf		
315							
316	040001 <i>MASONRY</i>						
317	Face brick; WA1, WA2	72,290	sf	34.00	2,457,860		
318	Glazed brick	620	sf	40.00	24,800		
319	Decorative CMU - ground faced/glazed	59,550	sf	34.00	2,024,700		
320	Decorative CMU - loading area columns	2,080	sf	34.00	70,720		
321	Premium for soldier course						
322	8" brick	340	lf	20.00	6,800		
323	16" brick	1,060	lf	20.00	21,200		
324	32" CMU	160	lf	40.00	6,400		
325	48" CMU	150	lf	70.00	10,500		
326	Premium for brick patterning/sizes	12,785	sf	7.00	89,495		
327	Premium for anti-graffiti coating at CMU	23,350	sf	6.00	140,100		
328	Premium for CMU patterning	1,655	sf	7.00	11,585		
329	Architectural precast date stone	2	ea	1,000.00	2,000		
330	Precast sills at Auditorium	30	lf	200.00	6,000		
331	Insulation; 4"	134,540	sf	4.00	538,160		
332	Staging/lifts to exterior wall	195,954	sf	4.00	783,816		
333							
334	052000 <i>MISC. METALS</i>						
335	Relieving angle				w/ structural		
336	Misc. metals at masonry	134,540	sf	1.25	168,175		
337	Custom Fabricated Steel "Tree", Blue Bird Quote	1	ls	40,000.00	40,000		
338							
339	070001 <i>WATERPROOFING, DAMPROOFING AND CAULKING</i>						
340	Self adhered modified bituminous sheet air/vapor barrier	151,485	sf	7.50	1,136,138		
341	AVB at window openings	14,643	lf	6.25	91,519		
342	Miscellaneous sealants	151,485	sf	0.50	75,743		
343	AVB at soffits	10,830	sf	8.00	86,640		
344							
345	070002 <i>ROOFING AND FLASHING</i>						
346	Membrane to walls and parapets	2,060	sf	10.00	20,600		
347							
348	072100 <i>THERMAL INSULATION</i>						
349	Insulation at window openings	14,643	lf	4.00	58,572		
350	Insulation at soffits	10,830	sf	5.00	54,150		
351							
352	074210 <i>WALL PANELS</i>						
353	Metal panel						
354	Exposed fastener lap seam metal panel; Centria	14,040	sf	60.00	842,400		
355	Composite metal panel	395	sf	80.00	31,600		
356	Sintered stone rainscreen						
357	Sintered stone frieze panels	450	sf	110.00	49,500		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
358	Sintered stone soffit	1,380	sf	120.00	165,600		
359	Insulation; 4"	14,885	sf	4.00	included		
360	Mockups	1	ls	150,000.00	150,000		
361	Aluminum Column Covers						
362	16' high	16	ea	10,054.40	160,870		
363	14' high	3	ea	8,797.60	26,393		
364	Roof screen at RTU's	3,223	sf				
365	Acoustical	3,223	sf	70.00	225,610		
366							
367	092900 GYPSUM BOARD ASSEMBLIES						
368	Exterior gypsum sheathing	151,485	sf	3.00	454,455		
369	6" metal stud	117,355	sf	12.00	1,408,260		
370	8" metal stud	34,130	sf	14.00	477,820		
371	GWB lining, 5/8"	151,485	sf	4.00	605,940		
372	Stucco soffit	9,450	sf	35.00	330,750		
373	Framing at soffits	10,830	sf	15.00	162,450		
374							
375	101400 SIGNAGE						
376	Signage, letters 2' high	2	loc	20,000.00	40,000		
377	SUBTOTAL						13,057,321
378							
379	B2020 WINDOWS			44,469	sf		
380							
381	061000 ROUGH CARPENTRY						
382	Wood blocking at openings	14,643	lf	12.00	175,716		
383							
384	070001 WATERPROOFING, DAMPROOFING AND CAULKING						
385	Backer rod & double sealant	14,643	lf	9.50	139,109		
386							
387	080001 WINDOWS						
388	Aluminum windows; double glazed with argon-filled space and solar control low-e coating	8,055	sf	95.00	765,225		
389	Kalwall	880	sf	80.00	70,400		
390	Premium for openings	210	loc	350.00	73,500		
391							
392	084413 CURTAIN WALL SYSTEMS						
393	Curtainwall, double glazed with argon-filled space and solar control low-e coating	35,534	sf	125.00	4,441,750		
394	Curtainwall, triple glazed				NIC		
395	Premium for openings	202	loc	1,000.00	202,000		
396	Premium for school guard glass	2,479	sf	30.00	74,370		
397	Premium for sintered stone at CW	1,358	sf	50.00	67,900		
398	Premium for custom frit	170	sf	25.00	4,250		
399	Custom extended profile snap cover	2,857	lf	40.00	114,280		
400	Curtainwall canopy	2	loc	10,000.00	20,000		
401							
402	089000 LOUVERS						
403	Louvers	600	sf	100.00	60,000		
404	SUBTOTAL						6,208,500
405							
406	B2030 EXTERIOR DOORS						
407							
408	061000 ROUGH CARPENTRY						
409	Wood blocking at openings	396	lf	12.00	4,752		
410							
411	079200 JOINT SEALANTS						
412	Backer rod & double sealant	396	lf	9.50	3,762		
413							
414	084110 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS						
415	Glazed aluminum entrance doors including frame and hardware; double	12	pr	11,000.00	132,000		
416	Glazed aluminum entrance doors including frame and hardware; single	4	ea	5,500.00	22,000		
417	Aluminum entrance doors including frame and hardware; double	5	pr	9,000.00	45,000		
418	Aluminum entrance doors including frame and hardware; single	14	ea	4,500.00	63,000		
419	FRP entrance doors including frame and hardware; double	1	pr	8,000.00	8,000		
420	FRP entrance doors including frame and hardware; single	4	ea	4,000.00	16,000		
421	Premium for 8'-4" - 9' high	15	ea	1,000.00	15,000		
422							
423	083300 OVERHEAD DOOR						
424	Overhead door , 10'-4" x 10'	1	ea	9,000.00	9,000		
425	Fire shutter, 3/4 hour	1	ea	10,000.00	10,000		
426							

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

427	087100 DOOR HARDWARE						
428	Auto openers - allow	4	ea	5,000.00	20,000		
429	SUBTOTAL					348,514	
430							
431							
	TOTAL - EXTERIOR CLOSURE						\$19,614,335

432	B30 ROOFING						
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433	B3010 ROOF COVERINGS						
434	055000 MISC. METALS						
435	Roof ladder	6	ea	4,000.00	24,000		
436	Tie-off davits, 62 locations	62	ea	1,300.00	80,600		
437							
438	061000 ROUGH CARPENTRY						
439	Rough blocking at roofing	22,770	lf	10.00	227,700		
440	Rough blocking for future vapor mitigation fans	18	loc	800.00	14,400		
441							
442	070002 ROOFING AND FLASHING						
443	<u>Flat roof</u>						
444	PVC membrane, 60 mil, protection board; 20 year warranty	148,230	sf	14.50	2,149,335		
445	Premium for acoustically sensitive areas - R1B1, Thermal barrier board	6,325	sf	2.00	12,650		
446	Second floor roof terrace; Roof Type 1E/F	9,200	sf	30.00	276,000		
447	<u>Canopy</u>						
448	PVC membrane, 60 mil, protection board, insulation	2,030	sf	13.00	26,390		
449	<u>Miscellaneous Roofing</u>						
450	Overflow scupper	32	ea	500.00	16,000		
451	Factory fabricated fascia trim roof edge	3,385	lf	45.00	152,325		
452	Parapet cap	820	lf	80.00	65,600		
453	Air/Vapor barrier at roof edges	4,205	lf	8.00	33,640		
454	Walkway pads	1	ls	40,000.00	40,000		
455	Elevator ventilation unit	2	ea	3,500.00	7,000		
456	SUBTOTAL					3,125,640	

461	B3020 ROOF OPENINGS						
462	Modular Skylights	649	sf	130.00	84,370		
463	Unit skylights w/ insulated curb						
464	US 01- 92" x 60"	5	ea	5,512.00	27,560		
465	US 02 - 58" x 58"	48	ea	2,726.93	130,893		
466	US 03 - 49" x 49"	6	ea	2,403.70	14,422		
467	US 04/04A - 40" x 40"	9	ea	1,592.50	14,333		
468	US 05 - 25" x 25"	1	ea	687.70	688		
469	US 06 - 8' diameter	2	ea	6,545.76	13,092		
470	US 07 - 5' diameter	4	ea	2,556.94	10,228		
471	US 08/08A - 49" x 33"	10	ea	1,565.20	15,652		
472	Smoke hatch at Stage	2	ea	8,000.00	16,000		
473	SUBTOTAL					327,238	

474	TOTAL - ROOFING						\$3,452,878
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475	C10 INTERIOR CONSTRUCTION						
476	C1010 PARTITIONS						
477	015200 TRADE SUPPORT						
478	Hoisting	1	ls	300,000.00	300,000		
479	042000 MASONRY						
480	8" CMU	15,689	sf	27.00	423,603		
481	8" CMU, elevator shaft	7,509	sf	32.00	240,288		
482	6" CMU	3,359	sf	26.00	87,334		
483	050001 MISCELLANEOUS METALS						
484	Seismic clips to CMU	477	ea	130.00	62,010		
485	Support at operable partitions	85	lf	150.00	12,750		
486	Miscellaneous metals to CMU	26,557	sf	1.50	39,836		
487	061000 ROUGH CARPENTRY						
488	Wood blocking at interiors	408,600	gsf	0.50	204,300		
489	Rough blocking at partitions	76,311	lf	6.00	457,866		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
499	Wood blocking at interior glazing openings	9,497	lf	4.00	37,988		
500							
501	070001 WATERPROOFING, DAMPROOFING AND CAULKING						
502	Backer rod & double sealant at openings	9,497	lf	5.00	47,485		
503	Miscellaneous sealants at partitions	408,600	gsf	0.65	265,590		
504							
505	080002 GLASS AND GLAZING						
506	Butt glazing						
507	Tempered glass, 3/8"	1,575	sf	74.00	116,550		
508	Laminated glass, 9/16"	4,582	sf	82.00	375,724		
509	Acoustic - double paned	2,102	sf	125.00	262,750		
510	Premium for mirrored glass at PS	1	ls	1,000.00	1,000		
511	Premium for ballistic glazing at Transaction window	1	ls	25,000.00	NIC		
512							
513	084413 CURTAIN WALL SYSTEMS						
514	Interior curtainwall	813	sf	120.00	97,560		
515							
516	092900 GYPSUM BOARD ASSEMBLIES						
517	Type 1A- 6" MS w/ 5/8" GWB e/s batt insulation	70,331	sf	13.25	931,886		
518	Type 1B- 3 5/8" MS w/ 5/8" GWB e/s w/ batt insulation	1,247	sf	11.25	14,029		
519	Type 1C- 8" MS w/ 5/8" GWB e/s w/ batt insulation	572	sf	15.25	8,723		
520	Type 2A- 6" MS w/ 2 layers GWB o/s, 1 layer o/s w/ insulation	169,415	sf	14.75	2,498,871		
521	Type 2B- 3-5/8" MS w/ 2 layers GWB o/s, 1 layer o/s w/ insulation	332	sf	12.75	4,233		
522	Type 2C- 8" MS w/ 2 layers GWB o/s, 1 layer o/s w/ insulation	25,255	sf	16.75	423,021		
523	Type 3A 6" MS w/ 2 layers GWB e/s w/ insulation	66,455	sf	16.25	1,079,894		
524	Type 3C 8" MS w/ 2 layers GWB e/s w/ insulation	4,749	sf	18.25	86,669		
525	Type 4A 6" MS w/ 1 layer GWB e/s, 1 layer plywood w/ insulation	3,905	sf	15.75	61,504		
526	Type 5A- 6" MS w/ 5/8" GWB e/s	9,858	sf	12.00	118,296		
527	Type 5B- 3-5/8" MS w/ 5/8" GWB e/s	300	sf	10.00	3,000		
528	Type 6A- 6" MS w/ 5/8" GWB o/s batt insulation	24,632	sf	10.25	252,478		
529	Type 6B- 3-5/8" MS w/ 5/8" GWB o/s batt insulation	8,705	sf	8.25	71,816		
530	Type 7A- 6" MS w/ 2 lyr 5/8" GWB o/s batt insulation	115,568	sf	11.75	1,357,924		
531	Type 7B- 3-5/8" MS w/ 2 lyr 5/8" GWB o/s batt insulation	10,819	sf	9.75	105,485		
532	Type 7C- 8" MS w/ 2 lyr 5/8" GWB o/s batt insulation	81	sf	13.75	1,114		
533	Type 8A- 6" MS w/ 5/8" GWB o/s	27,270	sf	9.00	245,430		
534	Type 8B- 3-5/8" MS w/ 5/8" GWB o/s batt insulation	74,562	sf	7.00	521,934		
535	Premium for wall @ bBB	4,800	sf	15.00	72,000		
536	Type 10A- 4" MS w/ 2 layers 5/8" GWB o/s, 1 layer 1" liner board, batt insulation	18,109	sf	12.75	230,890		
537	Type 12A- 2 rows of 3 5/8" MS w/ 2 layers GWB o/s ea row, w/ insulation in e row	1,453	sf	19.50	28,334		
538	Type 12B- 2 rows of 6" MS w/ 2 layers GWB o/s ea row, w/ insulation in e row	18,707	sf	23.50	439,615		
539							
540	Type 14A - low wall	2,625	sf	12.00	31,500		
541	Miscellaneous drywall	408,600	sf	0.50	204,300		
542							
543	102200 OPERABLE PARTITIONS						
544	8' high operable walls at classrooms	680	sf	70.00	47,600		
545							
546	SUBTOTAL					11,873,180	
547							
548	C1020 INTERIOR DOORS						
549	061000 ROUGH CARPENTRY						
550	Wood blocking at openings	12,614	lf	4.00	50,456		
551							
552	070001 WATERPROOFING, DAMPROOFING AND CAULKING						
553	Backer rod & double sealant	12,614	lf	5.00	63,070		
554							
555	080002 GLASS AND GLAZING						
556	Sidelights - glazing	347	sf	40.00	13,880		
557							
558	081110 HOLLOW METAL DOOR FRAMES						
559	Hollow metal Frames, single	622	ea	450.00	279,900		
560	Hollow metal Frames, double	90	ea	600.00	54,000		
561	Sidelight frames	347	sf	35.00	12,145		
562							
563	081400 WOOD DOORS						
564	Wood door	802	ea	590.00	473,180		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
565	Premium for type B	37	ea	300.00	11,100		
566	Premium for type D	42	ea	150.00	6,300		
567	Premium for type E	167	ea	200.00	33,400		
568	Premium for type F	118	ea	300.00	35,400		
569	Premium for type H	19	ea	300.00	5,700		
570	Premium for oversized leaf	10	ea	500.00	5,000		
571	Premium for acoustic gasketing	199	ea	400.00	79,600		
572							
573	083110 ACCESS DOORS AND FRAMES						
574	Access doors	1	ls	20,000.00	20,000		
575							
576	083300 OVERHEAD DOOR						
577	4' x 4'	1	ea	1,040.00	1,040		
578	5'-0" x 4'-4"	1	ea	1,397.50	1,398		
579	10' x 4'-4"	1	ea	2,795.00	2,795		
580	7' x 10'	1	ea	4,550.00	4,550		
581	7'-6" x 5'	1	ea	2,437.50	2,438		
582	Side Coiling Grilles						
583	64' x 10', at scramble	1	ea	44,800.00	44,800		
584							
585	083513 FOLDING DOORS GLASS						
586	Nanawall at T-Plan, 6' x 8'	1	ea	10,560.00	10,560		
587	Nanawall at Library, 24' x 10'	1	ea	52,800.00	52,800		
588							
589	084110 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS						
590	Glazed aluminum entrance doors including frame and hardware; double	13	pr	11,000.00	143,000		
591	Glazed aluminum entrance doors including frame and hardware; single	3	ea	5,500.00	16,500		
592	Premium for 9' high	12	ea	1,000.00	12,000		
593							
594	087100 DOOR HARDWARE						
595	Hardware to doors	802	set	950.00	761,900		
596							
597	090007 PAINTING						
598	Finish doors and frames	802	ea	200.00	160,400		
599	SUBTOTAL						2,357,312
600							
601	C1030 SPECIALTIES / MILLWORK						
602							
603	055000 MISCELLANEOUS METALS						
604	Catwalk access ladder 13'-4" high	1	ea	6,000.00	6,000		
605	Stage left and right gallery ladder 13'-10" high	2	ea	6,000.00	12,000		
606	Stage left and right lighting slot ladders 27'-6" high	2	ea	12,000.00	24,000		
607	Stage right gallery ladder 20'-10" high	1	ea	10,000.00	10,000		
608	Catwalk at performing arts	681	sf		w/ structural steel		
609	Catwalks on hanger system at auditorium and stage; A2.8	1,521	sf		w/ structural steel EBP		
610	Guardrail at DLab ramp	20	lf	250.00	5,000		
611	Handrail at DLab ramp	22	lf	75.00	1,650		
612	Metal grating above auditorium sound and control room	248	sf	55.00	13,640		
613	Railing at auditorium catwalks	754	lf	210.00	158,340		
614	Railing at performing arts catwalk	180	lf	210.00	37,800		
615	Security partition with door at stairs 1 & 2 roof access	13	lf	400.00	5,200		
616	Security partition - varying height handrail extension to join top of security gate at stair 2; 8/A10.1.3	7	lf	200.00	1,400		
617	Glass guardrail at areas open to below, 42" high (3/A10.0.2)	135	lf	450.00	60,750		
618	Miscellaneous metals throughout building	408,600	sf	0.75	306,450		
619	Wood cap to top of auditorium half walls; 6/A8.7.6	130	lf	50.00	6,500		
620	Auditorium balcony safety rail at bottom of aisle stairs	9	lf	90.00	810		
621	Auditorium balcony aisle handrails; 9/A8.7.5	38	lf	210.00	7,980		
622	Auditorium side balcony railing above wood paneling; 5/A8.7.4	80	lf	90.00	7,200		
623	Unistrut pipe grid at maker space classrooms	1,160	sf	20.00	23,200		
624	Hook and support for suspended swings	7	loc	1,500.00	10,500		
625							
626	057500 DECORATIVE FORMED METAL						
627	<u>Aluminum insulated column covers; A8.4.4</u>						
628	9'-6" high	4	ea	2,850.00	11,400		
629	11'-0" high	2	ea	3,300.00	6,600		
630	12'-0" high	6	ea	3,600.00	21,600		
631	14'-0" high	5	ea	4,200.00	21,000		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
632	17'-6" high	2	ea	5,250.00	10,500		
633	17'-6" high	2	ea	5,250.00	10,500		
634	25'-0" high	3	ea	7,500.00	22,500		
635	26'-8" high	2	ea	8,001.00	16,002		
636	40'-0" high	4	ea	12,000.00	48,000		
637							
638	<i>061000 ROUGH CARPENTRY</i>						
639	Backer panels in electrical closets	1	ls	10,000.00	10,000		
640	D Lab seating risers and ramp					w/ concrete	
641							
642	<i>064020 INTERIOR ARCHITECTURAL WOODWORK</i>						
643	Multi sensory wall - interactive maple recessed pegboard; 5/A8.6.5	90	sf	50.00	4,500		
644	6" solid surface guardrail cap at open to below; 6/A10.0.2	245	lf	50.00	12,250		
645	Built in tall storage cabs @ life skills cafe w/ Plum face & pivot doors 54"	3	ea	2,925.00	8,775		
646	Solid surface jamb at guardrails 42" high	8	ea	175.00	1,400		
647	Trash/recycling millwork					FF&E	
648	4" wood trim at orchestra pit edge and bottom of stage edge; 2/A8.76	100	lf	40.00	4,000		
649	3-3/8" wide x 6'-8" high wood filler panel between lockers with 2x6 blocking at circular locker pods; A8.5.1	216	ea	226.78	48,984		
650	Window sills, exterior windows/CW	2,782	lf	60.00	166,920		
651	Window sills, interior borrowed lites	1,521	lf	60.00	91,260		
652	<i>Benches</i>						
653	ADA Bench at locker and team rooms	14	lf	150.00	2,100		
654	Auditorium balcony lobby bench with back; 20/A8.6.2	17	lf	300.00	5,100		
655	Courtyard window bay wood benches; 15/A8.6.2	17	lf	250.00	4,250		
656	Library bench 18" deep; 13/A8.6.2	26	lf	250.00	6,500		
657	Library bench under stair; 18/A8.6.2	8	lf	250.00	2,000		
658	Library bench under stair - angled back; 18/A8.6.2	11	sf	80.00	880		
659	Library bench under stair wood panel sides; 13/A10.2.3	69	sf	75.00	5,175		
660	North entry backed bench; 15/A8.6.1	20	lf	250.00	5,000		
661	Performing arts under stair bench 18" deep; 5/A8.6.1	44	lf	500.00	22,000		
662	Performing arts under stair bench top section - veneer plywood; 5/A8.6.1	27	sf	70.00	1,890		
663	Performing arts/spine bench 18" deep; 3/A8.6.1	36	lf	500.00	18,000		
664	Performing arts/Spine bench; 9/A8.6.1	29	lf	500.00	14,500		
665	Performing arts/spine bench upper piece; 3/A8.6.1	44	sf	70.00	3,080		
666	Preschool under stair bench; 8/A8.6.1	9	lf	500.00	4,500		
667	Preschool under stair bench - angled back; 8/A8.6.1	11	sf	80.00	880		
668	Preschool under stair bench - platform piece; 8/A8.6.1	20	sf	70.00	1,400		
669	Upper forum seating area bench 18" deep; 2/A8.6.5	27	lf	250.00	6,750		
670	Upper forum seating area bench 2 tier; 2/A8.6.5	21	lf	500.00	10,500		
671	Upper forum seating area counter; 2/A8.6.5	8	lf	400.00	3,200		
672	Wood bench with back at cafeteria; 1/A8.6.1	56	lf	500.00	28,000		
673	<i>Desks and counters</i>						
674	Cafeteria island counter 3'-8" deep; 1/A8.6.7	82	lf	400.00	32,800		
675	Counter @ workbars overlooking forum; 8/A8.6.6	19	lf	250.00	4,750		
676	Library light cone 3'-0" wide counter; 2/A8.6.8, curved	100	lf	400.00	40,000		
677	Media center counter/display	9	lf	250.00	2,250		
678	Life skills cafe counter with cabinets below; A8.6.7	53	lf	800.00	42,400		
679	Life skills cafe tall cabinets, pivot sliding doors w/ casework behind	12	lf	1,000.00	12,000		
680	Lightwell counter with keyboard tray 16" deep; 3/A8.6.8, curved	276	lf	400.00	110,400		
681	Desk @ reception 231A	1	ls	4,200.00	4,200		
682	General office desk; 5/A8.6.3	1	ls	7,116.90	7,117		
683	Library circulation desk; 12/A8.6.3	1	ls	18,000.00	18,000		
684	Mass Ave admin desk; 8/A8.6.3	1	ls	9,750.00	9,750		
685	Preschool admin desk; 1/A8.6.3	1	ls	18,750.00	18,750		
686	<i>Display cases</i>						
687	Display case 3'-6" x 5'-0" at auditorium balcony corridor	3	ea	1,575.00	4,725		
688	Display case at corridor 4'-0" x 4'-0"; 11/A8.6.4	1	ea	1,440.00	1,440		
689	Display case double sided at art rooms 2'-6" x 2'-6"	6	ea	750.00	4,500		
690	Display case double sided at art rooms 3'-8" x 7'-2"	11	ea	3,156.35	34,720		
691	Narrow display case at auditorium balcony entry 3'-0" x 4'-0"; 16/A8.6.4	1	ea	720.00	720		
692	Narrow display case at auditorium entry 4'-0" x 4'-0"; 4/A8.6.4	2	ea	960.00	1,920		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
693	Narrow display case at library entry 3'-0" x 4'-0"; 12/A8.6.4	1	ea	720.00	720		
694							
695	070001 WATERPROOFING, DAMPROOFING AND CAULKING						
696	Miscellaneous sealants throughout building	408,600	gsf	1.00	408,600		
697							
698	080002 GLAZING						
699	Mirror at alt pe fitness	1,015	sf	38.00	38,570		
700	Mirror at dressing rooms	303	sf	38.00	11,514		
701	Mirror at ensemble	20	sf	38.00	760		
702	Mirror at SPED alt pe	430	sf	38.00	16,340		
703	Double sided mirror at PS observation	2	loc	500.00	1,000		
704							
705	101100 VISUAL DISPLAY SURFACES						
706	Marker board	13,416	sf	24.00	321,984		
707	Marker board with music staff lines	235	sf	28.00	6,580		
708	Tackboard	2,148	sf	22.00	47,256		
709	LCD screen					NIC	
710							
711	101400 SIGNAGE						
712	Building directory	1	loc	3,000.00	3,000		
713	Room Signs	733	loc	120.00	87,960		
714	Other signage/graphics	1	ls	35,000.00	35,000		
715	"Auditorium" cast letter signage at entrance, suspended from above	1	loc	1,000.00	1,000		
716	"Auditorium" cast letter signage at entrance	1	loc	750.00	750		
717	"Café" cast letter signage at library desk	1	ea	300.00	300		
718	"Media center" cast letter signage at library desk	3	ea	825.00	2,475		
719	"Circulation" cast letter signage at library desk	1	loc	825.00	825		
720	Custom vinyl graphic at gym & café	5,403	sf	20.00	108,060		
721	Vinyl graphic at Auditorium	2,000	sf	15.00	30,000		
722	Vinyl graphic wall mural in corridors	2,050	sf	15.00	30,750		
723	River of hands mural from existing bldg to be salvaged and reinstalled	140	sf	15.00	2,100		
724							
725	102110 TOILET COMPARTMENTS						
726	ADA	14	ea	1,800.00	25,200		
727	Standard	41	ea	1,600.00	65,600		
728	Urinal screen	9	ea	650.00	5,850		
729	Fourth wall partition at select single bathrooms	18	ea	2,200.00	39,600		
730	Shower curtain and rod including changing stalls	23	ea	400.00	9,200		
731	Shower seat	7	ea	350.00	2,450		
732	Adult changing station	1	ea	1,500.00	1,500		
733	Regular changing station	10	ea	1,000.00	10,000		
734							
735	102800 TOILET ACCESSORIES						
736	Gang bathroom	28	rms	2,350.00	65,800		
737	Single bathroom	73	rms	800.00	58,400		
738	Janitors Closet Accessories	14	rms	300.00	4,200		
739	Custodian work room accessories	1	rms	1,000.00	1,000		
740	Electric hand dryers at gang bathrooms	28	ea	750.00	21,000		
741							
742	104400 FIRE PROTECTION SPECIALTIES						
743	Fire extinguisher cabinets	136	ea	350.00	47,600		
744							
745	105000 LOCKERS						
746	Team room lockers on wood base; single tier	100	ea	350.00	35,000		
747	Locker room, coach and teacher planning lockers on wood base; 5 Tier	1,620	ope	170.00	275,400		
748	Bench at locker and team rooms	184	lf	90.00	16,560		
749	Student lockers on wood base; 3 tier	2,025	ope	190.00	384,750		
750	Kitchen lockers; single tier	6	ea	300.00	1,800		
751	SUBTOTAL				3,937,212		
752							
753	TOTAL - INTERIOR CONSTRUCTION					\$18,167,704	
754							
755							
756	C20 STAIRCASES						
757							
758	C2010 STAIR CONSTRUCTION						
759	033000 CONCRETE						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
761	Forum seating steps	1	ls	15,000.00	15,000		
762	Concrete to stairs	24	ft	2,800.00	67,200		
763							
764	055000 MISCELLANEOUS METALS						
765	Forum stairs (steel at seating with structural steel tonnage)	1	ls	75,000.00	75,000		
766	Egress stairs - Stair 2 & 3 - handrails and guardrails only (Structure w/ EBP #4)	7	ft	8,000.00	56,000		
767	Egress stairs - Stair 1, 4, 5, 6, 8, 9	17	ft	32,000.00	544,000		
768	Straight run egress stairs - Stair 7, 9	3	ft	25,000.00	75,000		
769	Straight run stairs with wood panel guardrail and cap at stair 10; A10.2.1	1	ft	30,000.00	30,000		
770	Straight run stairs with GWB/Glass guardrail and wood cap - Stair 11; A10.2.2	1	ft	28,000.00	28,000		
771	Straight run stairs with GWB guardrail and woodcap - Stair 12; A10.2.2	1	ft	26,000.00	26,000		
772	Radiusied stair with glass guardrail - Stair 13, A10.2.3	1	ft	35,000.00	35,000		
773	Ships ladder at stair 8	1	loc	15,000.00	15,000		
774	SUBTOTAL						966,200
775							
776	C2020 STAIR FINISHES						
777							
778	064020 INTERIOR ARCHITECTURAL WOODWORK						
779	Wood and resin composite flooring at forum stairs/steps - treads, risers and landing	1,498	sf	35.00	52,430		
780							
781	090005 RESILIENT FLOORS						
782	Rubber tile at stairs - landings	5,040	sf	14.00	70,560		
783	Rubber tile at stairs - treads & risers	2,040	ft	22.00	44,880		
784							
785	090007 PAINTING						
786	Photo luminescence markings	24	ft	2,000.00	48,000		
787	Paint to staircases	24	ft	3,000.00	72,000		
788							
789	096625 PRECAST EPOXY TERRAZZO						
790	Precast terrazzo tread/riser unit, 8/A10.3.2	383	lf	125.00	47,875		
791							
792	101500 PHOTOLUMINESCENT SAFETY PRODUCTS						
793	Photoluminescent safety at stairs	31	ft	2,400.00	74,400		
794	SUBTOTAL						410,145
795							
796	TOTAL - STAIRCASES						\$1,376,345
797							
798							
799	C3010 INTERIOR FINISHES						
800							
801	C3010 WALL FINISHES						
802							
803	064020 INTERIOR ARCHITECTURAL WOODWORK						
804	Maple wood grille with backer at Auditorium walls ; Armstrong Woodworks Grille (A8.7.1 & A8.7.2) 5 blade panels	940	sf	55.00	51,700		
805	Maple wood grille with backer at Auditorium walls ; Armstrong Woodworks Grille (A8.7.1 & A8.7.2) 7 blade panels	810	sf	65.00	52,650		
806	Maple wood grille with backer at Auditorium walls ; Armstrong Woodworks Grille (A8.7.1 & A8.7.2) 9 blade panels	800	sf	75.00	60,000		
807	Wood veneer 3/4" plywood at lobby overlook including flooring (A8.6.5)	300	sf	75.00	22,500		
808	Wood panel at proscenium head and jambs (A8.7.6)	808	sf	90.00	72,720		
809	Plywood behind wood panel at proscenium at front face (A8.7.6)	303	sf	6.00	1,818		
810	Wood panel at front and underside of auditorium balcony including plywood and 4" stud framing (A8.6/A8.7.4)	1,644	sf	110.00	180,840		
811	Wood panel at fusco entrance	1,345	sf	75.00	Alternate		
812	Reinstall salvaged fusco entrance	1	ls		w/ demo		
813	Wood panel at media center entrances	184	sf	75.00	13,800		
814	Wood panel at upper auditorium balcony entrance	120	sf	75.00	9,000		
815	Wood panel at D lab entrances	86	sf	75.00	6,450		
816	Wood paneling at auditorium entrance including faceted ceiling and wall details	1,490	sf	110.00	163,900		
817							
818	Wood paneling at corridor balconies (9/A10.0.2)	238	sf	75.00	17,850		
819	Wood veneer plywood top at cafeteria lockers	750	sf	55.00	41,250		
820	Homosote tackable wall panels art rooms, corridor and maker classes	4,842	sf	16.00	77,472		
821	3-form Varia panels at backside surface of semi circle corridor locker pods; quote provided by 3-form	1	ls	33,583.82	33,584		
822							
823	066400 FRP PANELING						
824	FRP wall panels (10'-4" at kitchen, 8'-4" at kitchen support rooms)	5,250	sf	14.00	73,500		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
825	090002 <i>TILE</i>						
826	Toilet room wall tile	16,610	sf	22.00	365,420		
827	Full height tile at showers	155	sf	22.00	3,410		
828	Cafeteria tile	2,960	sf	24.00	71,040		
829	High school tile	38,431	sf	24.00	922,344		
830	Pre school wing corridor tile	3,560	sf	24.00	85,440		
831	Premium for graphic tile - floor level designation detail; similar to 2/A12.0.8A	8	loc	200.00	1,600		
832	Premium for graphic tile -male & female bathroom detail; similar to 2K/A11.1	26	loc	250.00	6,500		
833							
834	090007 <i>PAINTING</i>						
835	Paint to GWB	1,062,353	sf	0.80	849,882		
836	Paint to CMU	45,605	sf	1.25	57,006		
837	Premium for high performance paint at select locations	51,170	sf	0.75	38,378		
838	Floor numbering at stairs	1	ls	20,000.00	20,000		
839	Prime and paint wall panels at rear of auditorium	2,519	sf	2.00	removed		
840							
841	098400 <i>ACOUSTIC ROOM COMPONENTS</i>						
842	Modular diffusive wall panels, solid mineral profile paneling at auditorium back wall (Modular Arts)	2,519	sf	59.00	removed		
843	Sprayed acoustic finish system at library cone and steam and humanities cones and trapezoid features, Acoustic plaster; dwg A8.3.1	16,138	sf	15.00	242,070		
844	<u>Acoustic wall panels - AWP-1 (Tectum)</u>						
845	Alt PE	195	sf	20.00	3,900		
846	Band	990	sf	20.00	19,800		
847	Chorus	425	sf	20.00	8,500		
848	Ensemble	200	sf	20.00	4,000		
849	Large gym	2,000	sf	20.00	40,000		
850	Locker and team rooms	765	sf	20.00	15,300		
851	Practice	810	sf	20.00	16,200		
852	Pre-k multipurpose	754	sf	20.00	15,080		
853	Production studio	80	sf	20.00	1,600		
854	Production lab	390	sf	20.00	7,800		
855	Small gym	545	sf	20.00	10,900		
856	SPED Alt PE	665	sf	20.00	13,300		
857	<u>Acoustic wall panels - AWP-2 (1" Fiberglass)</u>						
858	Corridor	1,480	sf	30.00	44,400		
859	D lab	288	sf	30.00	8,640		
860	Spine	688	sf	30.00	20,640		
861	Library learning commons	870	sf	30.00	26,100		
862	<u>Acoustic wall panels - AWP- 3 (Black architectural fiberglass boards)</u>						
863	Performing arts; 2" thick	720	sf	12.00	8,640		
864	<u>Acoustic wall panels - AWP- 5 (Fabric wrapped fiberglass core panels)</u>						
865	Auditorium	320	sf	30.00	9,600		
866	Polyester felt wall panels behind wood panels in Auditorium (1/A8.7.1) AWP-4	940	sf	30.00	28,200		
867	SUBTOTAL					3,844,724	
868							
869	C3020 FLOOR FINISHES						
870	015200 <i>TRADE SUPPORT</i>						
871	Final cleaning	408,600	sf	1.00	408,600		
872							
873	033000 <i>CONCRETE</i>						
874	Exposed concrete with hardener; EXP-C	21,410	sf	2.50	53,525		
875							
876	033650 <i>CONCRETE FINISHES</i>						
877	Polished stained concrete; AFC-1	27,529	sf	12.00	330,348		
878	Polished unstained concrete; AFC-2	17,705	sf	10.00	177,050		
879							
880	064020 <i>INTERIOR ARCHITECTURAL WOODWORK</i>						
881	Wood base	350	lf	20.00	7,000		
882	Wood and resin composite flooring at forum stair platform on 2nd floor	300	sf	35.00	10,500		
883							
884	090002 <i>TILE</i>						
885	Marble threshold at gang bathrooms	28	loc	150.00	4,200		
886							
887	090005 <i>RESILIENT FLOORS</i>						
888	MCT (includes floor prep + premium adhesive)	219,651	sf	5.50	1,208,081		
889	MCS (includes floor prep + premium adhesive)	4,680	sf	5.75	26,910		
890	Premium for water jetted graphics at corridor locations (A2.0.C)	1,080	sf	10.00	10,800		
891							

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
892	Interlocking rubber floor tile 3/8" thick; RAF-2	3,070	sf	10.00	30,700		
893	Resilient Base	36,217	lf	3.50	126,760		
894	Moisture mitigation	219,651	sf			NR	
895							
896	096560 <i>ATHLETIC + WOOD FLOORING</i>						
897	Vinyl athletic flooring - Taraflex sport M plus; RAF-1	1,460	sf	12.20	17,812		
898	Poured seamless sports flooring; RAF-3	9,920	sf	13.50	133,920		
899	Wood athletic flooring; WAF	16,070	sf	18.00	289,260		
900	Stage wood flooring	5,270	sf	24.00	126,480		
901	Moisture mitigation at rubber	12,990	sf	5.00	64,950		
902	Moisture mitigation at wood	16,070	sf	3.00	48,210		
903	Ventilating cove base	1,016	lf	10.00	10,160		
904							
905	096700 <i>FLUID APPLIED FLOORING</i>						
906	Poured resinous flooring + cove base	12,965	sf	14.50	187,993		
907	Epoxy terrazzo ILO polished stained concrete at spine		sf	40.00		Alternate	
908							
909	096820 <i>CARPETING</i>						
910	Carpet tile	19,464	sf	6.25	121,650		
911	Broadloom carpet at auditorium aisles	4,550	sf	7.00	31,850		
912	Broadloom carpet at D-lab stepped risers and ramp	1,863	sf	7.00	13,041		
913	Moisture mitigation at carpet	25,877	sf	4.00	103,508		
914	SUBTOTAL						3,543,308
915							
916	C3030 CEILING FINISHES						
917							
918	015200 <i>TRADE SUPPORT</i>						
919	Staging	1	ls	200,000.00	200,000		
920							
921	057500 <i>DECORATIVE FORMED METAL</i>						
922	1" deep painted aluminum grille on 3/4" plywood over steel decking at top of vestibule, grille to be divided into removable sections as shown, grille to be by grainger	835	sf	55.00	45,925		
923							
924	064020 <i>INTERIOR ARCHITECTURAL WOODWORK</i>						
925	Maple wood grille with backer at Auditorium ceilings; Armstrong woodworks grille (A8.7.3) 5 blade panels	1,095	sf	55.00	60,225		
926	Maple wood grille with backer at Auditorium ceilings; Armstrong woodworks grille (A8.7.3) 7 blade panels	1,355	sf	65.00	88,075		
927	Maple wood grille with backer at Auditorium ceilings; Armstrong woodworks grille (A8.7.3) 9 blade panels	1,135	sf	75.00	85,125		
928	Maple wood grille with backer at Auditorium ceilings - angled edge condition; Armstrong woodworks grille (A8.7.3)	585	sf	75.00	43,875		
929							
930	090003 <i>ACOUSTICAL TILE</i>						
931	ACT 2 x 2 - Armstrong Calla Square Lay in; C1A	15,140	sf	7.00	105,980		
932	ACT 2 x 4 - Armstrong Calla Square Lay in; C1A	160,240	sf	6.00	961,440		
933	ACT 2 x 6 - Armstrong Ultima square lay in; C1B	28,295	sf	8.00	226,360		
934	ACT 2 x 6 staggered - Armstrong Ultima square lay in; C1B	56,180	sf	9.00	505,620		
935	ACT 2 x 6 - Armstrong Optima square lay in; C1C	4,120	sf	8.50	35,020		
936	ACT 2 x 6 staggered - Armstrong Optima square lay in; C1C	6,960	sf	10.50	73,080		
937	ACT 2 x 2 - Armstrong Calla Square lay in; C1D black tile and grid	290	sf	7.00	2,030		
938	ACT 2 x 4 - Armstrong Ultima Health Zone; C1E washable	4,510	sf	6.50	29,315		
939	ACT 2 x 2; C1F	2,440	sf	4.00	9,760		
940	ACT 2 x 4; C1F	6,540	sf	3.50	22,890		
941	ACT 4 x 4 - Armstrong Optima Square lay in; C1G	3,468	sf	6.50	22,542		
942	ACT 2 x 4 - Armstrong Fine Fissure Lay in; C1H	13,265	sf	6.00	79,590		
943	Felt baffle system at corridors, Turf Datum ceiling baffle; C4A (material only quote)	4,850	lf	55.00	266,750		
944	Felt baffle system at corridors, Turf Datum ceiling baffle; C4A (install including black iron, threaded rod, and slab anchors)	4,850	lf	30.00	145,500		
945	Wood baffle system at corridors; Armstrong Woodworks Solo Baffles, PS BM White Maple with clear coat; C4B	4,810	lf	75.00	360,750		
946	Wood veneer plank ceiling system - C6	1,095	sf	40.00	43,800		
947	Axiom perimeter trim at wood and ACT clouds	1,030	lf	20.00	20,600		
948	Extruded aluminum light ledge	6,000	lf	20.00	120,000		
949	3D solid felt ceiling grid tiles, turf crease tiles; C5A (material only quote)	1	ls	46,676.00	46,676		
950	3D open felt ceiling grid tile, turf slice tiles; C5B (material only quote)	1	ls	16,450.00	16,450		
951	Install C5A & C5B including supplying 2x2 grid	8,205	sf	5.00	41,025		
952							

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

953	090007 PAINTING						
954	Paint to GWB ceilings	57,607	sf	1.00	57,607		
955	Paint to exposed K13	15,600	sf	2.50	NR		
956	Paint to exposed MEP and deck; EXP	5,650	sf	2.50	14,125		
957	Paint to exposed MEP and deck at gym, stage and auditorium; EXP	35,083	sf	3.00	105,249		
958	Paint to exposed MEP, deck to remain unpainted; EXP-U	6,430	sf	1.50	9,645		
959							
960	092900 GYPSUM BOARD ASSEMBLIES						
961	GWB ceiling	4,275	sf	15.00	64,125		
962	Acoustically isolated suspended gypsum board; C2B	14,375	sf	22.00	316,250		
963	GWB ceiling sloped to underside of select stairs and balcony	4,735	sf	17.00	80,495		
964	GWB soffits - vertical	31,965	sf	16.00	511,440		
965	GWB soffits - horizontal	16,632	sf	15.00	249,480		
966	Extruded aluminum indirect light ledge; A3.7	1,040	lf	23.00	23,920		
967							
968							
969	098400 SOUND ABSORBING PANELS						
970	K13 spray insulation - custom color - black & white ; C3	15,600	sf	6.50	101,400		
971	Geometric sound diffuser panels at band and chorus	1,472	sf	40.00	58,880		
972	Curved auditorium clouds with fiber resin gelcoat	270	sf	95.00	25,650		
973	2" reflective black ceiling panels behind wood grille ceiling panels at auditorium; Type A; A8.7.3	1,470	sf	20.00	29,400		
974	2" absorptive black architectural fiberglass boards behind wood grille ceiling panels at auditorium; Type B AWP-3; A8.7.3	1,475	sf	20.00	29,500		
975	SUBTOTAL					5,335,569	
976							
977	TOTAL - INTERIOR FINISHES					\$12,723,601	
978							
979							
980	D10 CONVEYING SYSTEMS						
981							
982	D1010 ELEVATOR						
983	Machine-room-less, gearless traction elevators						
984	Elevator 3; 3 stop; 2 sided opening	1	ea	165,000.00	165,000		
985	Elevator 2 ; 4 stop	1	ea	180,000.00	180,000		
986	Elevator 1; 6 stop	1	ea	300,000.00	300,000		
987	Lift at Forum stair	1	ea	35,000.00	35,000		
988	SUBTOTAL					680,000	
989							
990	TOTAL - CONVEYING SYSTEMS					\$680,000	
991							
992							
993	D20 PLUMBING						
994							
995	D20 PLUMBING, GENERALLY						
996	Electric domestic HW heater, 99kW 250 gal	2	ea	24,000.00	48,000		
997	DHW preheat storage tank 300 gallons	2	ea	15,000.00	30,000		
998	Electric domestic HW heater, 63kW 250 gal	1	ea	20,000.00	20,000		
999	DHW preheat storage tank 215 gallons	1	ea	13,000.00	13,000		
1000	Electric domestic HW heater, 18kw 120 gal	1	ea	8,500.00	8,500		
1001	Electric domestic HW heater, 9kw 20 gal	1	ea	4,200.00	4,200		
1002	Electric domestic HW heater, 6kw 20 gal	2	ea	3,800.00	7,600		
1003	Electric domestic HW heater, 3kw 10 gal	1	ea	2,700.00	2,700		
1004	Instantaneous electric water heater	17	ea	800.00	13,600		
1005	Expansion tank	7	ea	3,500.00	24,500		
1006	Hot water circulator pump assembly	9	ea	1,400.00	12,600		
1007	Main water mixing valve station	1	ea	4,800.00	4,800		
1008	Tempered water mixing valve station	1	ea	3,600.00	3,600		
1009	Tempered water circulator pump assembly	1	ea	1,400.00	1,400		
1010	Main water meter and PRV assembly, primary and backup	2	ea	6,300.00	12,600		
1011	Irrigation water meter and RPB assembly	2	ea	4,300.00	8,600		
1012	Domestic water sub-meter assembly	10	ea	650.00	6,500		
1013	Connection to natural gas meter	1	ea	1,400.00	1,400		
1014	Natural gas sub-meter assembly	1	ea	850.00	850		
1015	Kitchen water sub-meter assembly	1	ea	1,200.00	1,200		
1016	6" Reduce pressure backflow preventer, main service				NIC		
1017	4" Reduce pressure backflow preventer, backup service	1	ea	2,900.00	2,900		
1018	3/4" Backflow preventer, HVAC/kitchen/misc	8	ea	1,600.00	12,800		
1019	Roof drain	91	ea	1,200.00	109,200		
1020	Area drain	4	ea	1,050.00	4,200		
1021	Floor drain	43	ea	675.00	29,025		
1022	Kitchen floor drain	2	ea	800.00	1,600		

90% Construction Document Estimate

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1023	Kitchen floor sink	12	ea	2,500.00	30,000		
1024	Kitchen floor trough installation	2	ea	800.00	1,600		
1025	Trench drain	50	lf	75.00	3,750		
1026	Trap primer	21	ea	1,050.00	22,050		
1027	Freeze proof wall hydrant	17	ea	325.00	5,525		
1028	Hose bibb	29	ea	225.00	6,525		
1029	Interior grease interceptor	2	ea	3,500.00	7,000		
1030	Exterior grease interceptor (by division 33)			by others			
1031	Air compressor with tank, filter, ref dryer (maker/wood shop)	1	ea	16,000.00	16,000		
1032	Acid neutralization tank w/ pH monitor	1	ea	48,000.00	48,000		
1033	Rough-in & connection to kitchen equipment	57	conn	750.00	42,750		
1034	<u>Plumbing Fixtures</u>						
1035	Water closet	42	ea	1,525.00	64,050		
1036	Water closet ADA	73	ea	1,550.00	113,150		
1037	Water closet Child	11	ea	1,350.00	14,850		
1038	Urinal	6	ea	1,575.00	9,450		
1039	Urinal ADA	14	ea	1,600.00	22,400		
1040	Lavatory ADA wall hung	132	ea	1,400.00	184,800		
1041	Large art room sink with sediment trap (multi faucet)	8	ea	5,000.00	40,000		
1042	Shower 36x36	6	ea	1,650.00	9,900		
1043	Shower ADA 36x36	7	ea	3,600.00	25,200		
1044	Mop sink with BFP	18	ea	1,425.00	25,650		
1045	Drinking fountain; bi-level w/ bottle fill	8	ea	3,850.00	30,800		
1046	Drinking fountain; single-level	13	ea	1,850.00	24,050		
1047	Bottle filler	16	ea	1,400.00	22,400		
1048	Art sink with trap	4	ea	1,850.00	7,400		
1049	Sink ADA countertop	58	ea	1,275.00	73,950		
1050	FACS classroom sink	9	ea	1,625.00	14,625		
1051	Science room sink (integral sink by others)	69	ea	600.00	41,400		
1052	ES/EW Emergency shower/eyewash	16	ea	3,450.00	55,200		
1053	Laundry box	3	ea	350.00	1,050		
1054	Whirlpool connection	1	ea	900.00	900		
1055	Ice maker connection	3	ea	325.00	975		
1056	Washer outlet box	3	ea	350.00	1,050		
1057	Condensate drain receptor	10	ea	300.00	3,000		
1058	<u>Domestic/Tempered/NP Water Piping</u>						
1059	Copper pipe type L with fittings & hangers	26,935	lf	36.00	969,660		
1060	Valves & accessories	1	ls	145,449.00	145,449		
1061	<u>Pipe insulation</u>						
1062	Pipe insulation	26,935	lf	10.00	269,350		
1063	<u>Sanitary W&V UG, SV Cast Iron Pipe</u>						
1064	6" SV Cast iron pipe with fittings	670	lf	47.00	31,490		
1065	4" SV Cast iron pipe with fittings	3,710	lf	31.00	115,010		
1066	<3" SV Cast iron pipe with fittings	960	lf	24.00	23,040		
1067	<u>Sanitary W&V AG, Hubless Cast Iron Pipe</u>						
1068	Cast iron pipe with fittings & hangers	11,590	lf	45.00	521,550		
1069	<u>Storm Drainage UG, SV Cast Iron Pipe</u>						
1070	15" SV Cast iron pipe with fittings	280	lf	190.00	53,200		
1071	12" SV Cast iron pipe with fittings	215	lf	135.00	29,025		
1072	10" SV Cast iron pipe with fittings	340	lf	106.00	36,040		
1073	8" SV Cast iron pipe with fittings	515	lf	72.00	37,080		
1074	6" SV Cast iron pipe with fittings	530	lf	48.00	25,440		
1075	4" SV Cast iron pipe with fittings	215	lf	31.00	6,665		
1076	<u>Storm Drainage AG, Hubless Cast Iron Pipe</u>						
1077	Cast iron pipe with fittings & hangers	5,180	lf	55.00	284,900		
1078	Pipe insulation on horizontal runs	2,600	lf	17.00	44,200		
1079	Storm outlets & accessories	1	ls	8,500.00	8,500		
1080	<u>Acid Waste AG, Polypropylene</u>						
1081	Acid waste pipe with fittings	5,610	lf	85.00	476,850		
1082	<u>Natural Gas Piping</u>						
1083	Natural gas pipe with fittings & hangers	2,410	lf	41.00	98,810		
1084	Science lab gas valve shutoff box	6	ea	450.00	2,700		
1085	Science lab gas turrets	52	ea	450.00	23,400		
1086	<u>Compressed Air Piping</u>						
1087	CA pipe with fittings & hangers (work shop)	490	lf	35.00	17,150		
1088	Outlets, valves & accessories	1	ls	9,000.00	9,000		
1089	<u>Miscellaneous</u>						
1090	Demo - drain and make safe	1	ls	40,000.00	40,000		

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

1091	System testing, flushing, disinfection	1	ls	21,000.00	21,000		
1092	Coring, cutting, sleeves & fire stopping	1	ls	62,500.00	62,500		
1093	Seismic restraints and structural steel comp.	1	ls	36,000.00	36,000		
1094	Hydraulic lifts/rigging	1	ls	80,000.00	80,000		
1095	Shop drawings / BIM / ENG Support / As-Builts	1	ls	165,000.00	165,000		
1096	Commissioning Support	1	ls	29,000.00	29,000		
1097	Fees & permits	1	ls	30,000.00	Waived		
1098	SUBTOTAL						5,016,834
1099							
1100	TOTAL - PLUMBING						\$5,016,834
1101							
1102							
1103	D30 HVAC						
1104							
1105	D30 HVAC, GENERALLY						
1106	<u>Central plant equipment</u>						
1107	ACHP-1 (10 - 30 ton modules); air-cooled heat pump with simultaneous heating and cooling (w/ noise reducing package)	1	ea	820,000.00	820,000		
1108	ACHP-2,3 (5 - 30 ton modules); air-cooled heat pump with simultaneous heating and cooling (w/ noise reducing package)	2	ea	410,000.00	820,000		
1109	ACH-1,2 (3 - 60 ton modules); air-cooled chiller with noise reducing package	2	ea	282,000.00	564,000		
1110	B-1,2 Hot water boiler, electric 490 KW	2	ea	45,000.00	90,000		
1111	CHW buffer tank 700 gallon	4	ea	6,000.00	24,000		
1112	Plate & frame heat exchanger 1656 MBH	2	ea	13,000.00	26,000		
1113	Expansion tank	10	ea	4,000.00	40,000		
1114	Air separator	4	ea	3,500.00	14,000		
1115	Glycol feed system	4	ea	7,500.00	30,000		
1116	Glycol	12,500	gal	15.00	187,500		
1117	Chemical pot feeder	4	ea	800.00	3,200		
1118	<u>Pumps</u>						
1119	HWP-1,2,3 Hot water loop pump Bldg D/E (ACHP)	3	ea	13,500.00	40,500		
1120	HWP-4,5,6 Hot water loop pump Bldg A/B (ACHP)	3	ea	13,500.00	40,500		
1121	CHWP-1,2,3 Chilled water loop pump Bldg D/E (ACHP)	3	ea	16,500.00	49,500		
1122	CHWP-4,5,6 Chilled water loop pump Bldg A/B (ACHP)	3	ea	16,500.00	49,500		
1123	CHWP-7,8 Chilled water loop pump Bldg D/E (ACH)	2	ea	15,000.00	30,000		
1124	CHWP-9,10 Chilled water loop pump Bldg A/B (ACH)	2	ea	15,000.00	30,000		
1125	BP-1,2 Boiler pump Bldg D/E	2	ea	4,500.00	9,000		
1126	BP-3,4 Boiler pump Bldg A/B	2	ea	4,500.00	9,000		
1127	VFD's	20	ea	4,000.00	80,000		
1128	<u>Heating equipment</u>						
1129	Unit heater, electric	3	ea	950.00	2,850		
1130	Unit heater, HW	2	ea	1,000.00	2,000		
1131	Cabinet unit heater HW, electric	8	ea	1,150.00	9,200		
1132	Cabinet unit heater, HW	7	ea	1,100.00	7,700		
1133	Panel radiator, wall	152	lf	300.00	45,600		
1134	Radiant heating/cooling floor tubing	14,220	sf	14.00	199,080		
1135	Radiant heating/cooling manifolds	11	ea	1,800.00	19,800		
1136	<u>Cooling equipment</u>						
1137	RFCU- Refrigerant fan coil unit	153	ea	2,900.00	443,700		
1138	HRCU- Heat recovery condensing units	211	tons	1,800.00	379,800		
1139	Branch controller box	10	ea	2,500.00	25,000		
1140	<u>Heat recovery condensing unit</u>						
1141	HRCU-ERU-1	64	tons	2,000.00	128,000		
1142	HRCU-ERU-2	24	tons	2,000.00	48,000		
1143	HRCU-ERU-3	8	tons	2,000.00	16,000		
1144	HRCU-ERU-4	48	tons	2,000.00	96,000		
1145	HRCU-HRU-3: (5 - 10 ton compressors)	50	tons	2,000.00	100,000		
1146	HRCU-HRU-6: (6 compressors)	48	tons	2,000.00	96,000		
1147	HRCU-HRU-7: (2 compressors)	18	tons	2,000.00	36,000		
1148	HRCU-HRU-8: (3 compressors)	28	tons	2,000.00	56,000		
1149	HRCU-HRU-9: (4 compressors)	34	tons	2,000.00	68,000		
1150	HRCU-HRU-10: (1 - 10 ton compressors)	10	tons	2,000.00	20,000		
1151	HRCU-HRU-11: (6 - 10 ton compressors)	60	tons	2,000.00	120,000		
1152	HRCU-HRU-12: (6 compressors)	52	tons	2,000.00	104,000		
1153	HRCU-HRU-13: (6 compressors)	52	tons	2,000.00	104,000		
1154	HRCU-HRU-14: (6 compressors)	52	tons	2,000.00	104,000		
1155	HRCU-HRU-15: (3 compressors)	32	tons	2,000.00	64,000		
1156	<u>Air distribution</u>						
1157	<u>Air Handling Unit</u>						
1158	ERU-1: 12000 CFM with DX, Elec Ht, ERW	12,000	cfm	17.00	204,000		
1159	ERU-2: 4000 CFM with DX, Elec Ht, ERW	4,000	cfm	18.00	72,000		

90% Construction Document Estimate

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1160	ERU-3: 1100 CFM with DX, Elec Ht, ERW	1,100	cfm	25.00	27,500		
1161	ERU-4: 8000 CFM with DX, Elec Ht, ERW	8,000	cfm	17.00	136,000		
1162	HRU-1: 18000 CFM with CHW, HW & ERW	18,000	cfm	20.00	360,000		
1163	HRU-2: 18000 CFM with CHW, HW & ERW	18,000	cfm	20.00	360,000		
1164	HRU-3: 3850 CFM with DX, Elec Ht, ERW	3,850	cfm	18.00	69,300		
1165	HRU-4: 18000 CFM with CHW, HW & ERW	18,000	cfm	20.00	360,000		
1166	HRU-5: 18000 CFM with CHW, HW & ERW	18,000	cfm	20.00	360,000		
1167	HRU-6: 11650 CFM with DX, Elec Ht, ERW	11,650	cfm	17.00	198,050		
1168	HRU-7: 4410 CFM with DX, Elec Ht, ERW	4,410	cfm	18.00	79,380		
1169	HRU-8: 5690 CFM with DX, Elec Ht, ERW	5,690	cfm	18.00	102,420		
1170	HRU-9: 5250 CFM with DX, Elec Ht, ERW	5,250	cfm	18.00	94,500		
1171	HRU-10: 6250 CFM with DX, Elec Ht, ERW	6,250	cfm	18.00	112,500		
1172	HRU-11: 13550 CFM with DX, Elec Ht, ERW	13,550	cfm	17.00	230,350		
1173	HRU-12: 10950 CFM with DX, Elec Ht, ERW	10,950	cfm	19.00	208,050		
1174	HRU-13: 10950 CFM with DX, Elec Ht, ERW	10,950	cfm	19.00	208,050		
1175	HRU-14: 12000 CFM with DX, Elec Ht, ERW	12,000	cfm	19.00	228,000		
1176	HRU-15: 6100 CFM with DX, Elec Ht, ERW	6,100	cfm	17.00	103,700		
1177	MAU-1: Kitchen MUA 5500 CFM with CHW, HW	5,500	cfm	12.00	66,000		
1178	Rooftop unit curbs	20	ea	6,000.00	120,000		
1179	FCU- Fan coil unit with CHW	44	ea	5,500.00	242,000		
1180	FCB- Fan powered VAV coil box with CHW, HW	150	ea	6,000.00	900,000		
1181	<u>Fans</u>						
1182	General exhaust fan	1	ea	6,000.00	6,000		
1183	Kitchen hood grease exhaust fan	1	ea	13,000.00	13,000		
1184	Dishwasher exhaust fan	1	ea	3,500.00	3,500		
1185	Kiln exhaust fan	1	ea	3,000.00	3,000		
1186	Mech/fp exhaust fan	2	ea	3,800.00	7,600		
1187	Maker, shop, cad, storage	5	ea	1,200.00	6,000		
1188	Dryer EF	4	ea	500.00	2,000		
1189	Art storage	1	ea	2,500.00	2,500		
1190	FACS EF	3	ea	1,000.00	3,000		
1191	Sub slab vapor mitigation fan	18	ea	1,200.00	21,600		
1192	HVLS fan 18' diameter	4	ea	10,400.00	41,600		
1193	<u>Sheet metal & Accessories</u>						
1194	Galvanized ductwork with fittings & hangers	415,000	lbs	14.00	5,810,000		
1195	Welded black iron grease exhaust ductwork	9,500	lbs	17.00	161,500		
1196	Dishwasher exhaust stainless steel	1,800	lbs	19.00	34,200		
1197	Lab exhaust stainless steel	2,500	lbs	19.00	47,500		
1198	Dust collector flanged/gasket 15" pressure class duct	1	ls	21,000.00	21,000		
1199	Sub slab vapor mitigation duct	1	ls	35,000.00	35,000		
1200	Duct insulation	235,000	sf	4.75	1,116,250		
1201	Firewrap kitchen duct insulation	3,000	sf	18.00	54,000		
1202	Registers, grilles & diffusers	1,730	ea	150.00	259,500		
1203	Sound attenuators	39	ea	6,000.00	234,000		
1204	VAV box with electric reheat coil	96	ea	1,200.00	115,200		
1205	VAV box with hot water reheat coil	37	ea	1,300.00	48,100		
1206	VAV box, return/exhaust	235	ea	1,000.00	235,000		
1207	Fan powered box with HW reheat coil	32	ea	2,300.00	73,600		
1208	Dust collector 4400 CFM, fabric type with funnel bottom	1	ea	27,000.00	27,000		
1209	Terminal air filter in Art room	2	ea	1,500.00	3,000		
1210	Fire/smoke dampers	1	ls	100,000.00	100,000		
1211	Miscellaneous sheet metal accessories	408,600	sf	0.25	102,150		
1212	<u>Piping</u>						
1213	<u>Hot Water Pipe</u>						
1214	Hot water piping	23,670	lf	38.00	899,460		
1215	Misc valves & accessories	1	ls	89,946.00	89,946		
1216	<u>Chilled Water Pipe</u>						
1217	Chilled water piping	19,210	lf	46.00	883,660		
1218	Misc valves & accessories	1	ls	88,366.00	88,366		
1219	<u>Refrigerant Piping</u>						
1220	RFCU refrigerant ACR tubing with fittings & hangers	23,440	lf	26.00	609,440		
1221	ERU/HRU refrigerant tubing with fittings & hangers	7,470	lf	42.00	313,740		
1222	<u>Condensate Drain Piping</u>						
1223	Condensate piping with fittings & hangers (for ERU, HRU, FCU, RFCU, FCB)	7,000	lf	33.00	231,000		
1224	<u>Equipment Piping Hookup:</u>						
1225	Air cooled heat pump	3	ea	11,000.00	33,000		
1226	Air cooled chiller	2	ea	7,000.00	14,000		
1227	Boiler	2	ea	6,500.00	13,000		
1228	Pump	20	ea	3,200.00	64,000		
1229	HRU (CHW, HW)	4	ea	4,000.00	16,000		
1230	Kitchen MUA (CHW, HW)	1	ea	3,500.00	3,500		
1231	Fan coil unit (CHW/HW)	44	ea	1,900.00	83,600		
1232	Fan coil box (CHW/HW)	150	ea	1,900.00	285,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

1233	Radiant manifold (CHW/HW)	11	ea	1,900.00	20,900		
1234	VAV box (HW)	37	ea	1,000.00	37,000		
1235	Fan powered box (HW)	32	ea	1,000.00	32,000		
1236	CUH & UH	9	ea	500.00	4,500		
1237	Panel radiator	18	ea	500.00	9,000		
1238	<u>Piping Insulation</u>						
1239	Piping insulation	80,790	lf	10.00	807,900		
1240	<u>Controls (DDC)</u>						
1241	Automatic temperature controls DDC	408,600	sf	6.25	2,553,750		
1242	Add for additional graphics	1	ls	50,000.00	50,000		
1243	<u>Balancing</u>						
1244	System testing & balancing	408,600	sf	1.00	408,600		
1245	<u>Miscellaneous</u>						
1246	Demo - drain and make safe	1	ls	200,000.00	200,000		
1247	System testing and flushing	1	ls	100,000.00	100,000		
1248	Coring, cutting, sleeves & fire stopping	1	ls	60,000.00	60,000		
1249	Seismic Restraints and Structural Steel Comp.	1	ls	149,900.00	149,900		
1250	Hydraulic lifts/rigging	1	ls	232,200.00	232,200		
1251	Shop drawings / BIM / ENG Support / As-Builts	1	ls	393,500.00	393,500		
1252	General conditions	1	ls	385,000.00	385,000		
1253	Market adjustment	(1)	ls	250,000.00	(250,000)		
1254	Commissioning Support	1	ls	100,000.00	100,000		
1255	Fees & permits	1	ls	287,850.00	Waived		
1256	SUBTOTAL					27,601,992	

1257

TOTAL - HVAC	\$27,601,992
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1258

D40 FIRE PROTECTION	\$2,709,980
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1259

D40 FIRE PROTECTION	\$2,709,980
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1260

D40 FIRE PROTECTION, GENERALLY	\$2,709,980
Fire pump, jockey pump, and controllers	1 ea 100,000.00 100,000
8" Fire protection water service	2 ea 5,500.00 11,000
8" Double check valve assembly	1 ea 16,500.00 16,500
Wet alarm check valve assembly	5 ea 5,500.00 27,500
Electric bell	2 ea 400.00 800
Fire pump test header	1 ea 2,500.00 2,500
Fire department connection	2 ea 1,500.00 3,000
Dry alarm check valve/inlet PRV for Overhang dry heads	1 ea 6,000.00 6,000
Zone control valve stations	17 ea 2,200.00 37,400
Fire department valve	39 ea 600.00 23,400
Roof mounted FD valve and PIV assembly	3 ea 1,700.00 5,100
Sprinkler heads, wet (incl above auditorium ceiling)	4,047 ea 130.00 526,110
Sprinkler heads, wet with cage (incl under gym bleachers)	220 ea 195.00 42,900
Sprinkler heads, dry (under overhang)	45 ea 130.00 5,850
<1-1/2" branch piping with fittings & hangers	37,220 lf 22.50 837,450
2"-4" Main piping with fittings & hangers	10,890 lf 36.00 392,040
6" Main piping with fittings & hangers	1,485 lf 66.00 98,010
8" Main piping with fittings & hangers	1,360 lf 92.00 125,120
<u>Miscellaneous</u>	
General conditions	1 ls 225,000.00 225,000
System testing and flushing	1 ls 13,600.00 13,600
Coring, cutting, sleeves & fire stopping	1 ls 22,700.00 22,700
Seismic Restraints and Structural Steel Comp.	1 ls 22,700.00 22,700
Hydraulic lifts/rigging	1 ls 63,700.00 63,700
Shop drawings / BIM / ENG Support / As-Builts	1 ls 91,300.00 91,300
Commissioning Support	1 ls 10,300.00 10,300
Fees & permits	1 ls 24,780.00 Waived
SUBTOTAL	2,709,980

1261

TOTAL - FIRE PROTECTION	\$2,709,980
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1262

D50 ELECTRICAL	\$2,709,980
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1263

D5010 ELECTRICAL SYSTEMS	\$2,709,980
Gear & Distribution	
<u>Normal Power</u>	
6000A 277/480V switchboard (MSB-PV-BLDG + MSB-PV-SITE + MSB1)	1 ls 310,000.00 310,000
4000A 277/480V switchboard	1 ls 110,000.00 110,000
2500A 277/480V switchboard	1 ls 75,000.00 75,000
1200A 277/480V switchboard	1 ea 49,000.00 49,000

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1306	1200A 277/480V distribution panelboard	3	ea	25,000.00	75,000		
1307	1000A 277/480V distribution panelboard	1	ea	30,000.00	30,000		
1308	600A 277/480V distribution panelboard	2	ea	16,000.00	32,000		
1309	400A 277/480V distribution panelboard	3	ea	6,500.00	19,500		
1310	225A 277/480V distribution panelboard	1	ea	4,500.00	4,500		
1311	400A 277/480V panelboard	3	ea	3,280.00	9,840		
1312	225A 277/480V panelboard	19	ea	2,700.00	51,300		
1313	100A 277/480V panelboard	4	ea	1,600.00	6,400		
1314	75KVA transformer	9	ea	7,625.00	68,625		
1315	50KVA transformer	2	ea	6,000.00	12,000		
1316	45KVA transformer	13	ea	5,536.00	71,968		
1317	30KVA transformer	8	ea	4,725.00	37,800		
1318	225A 120/208V double tub panelboard	28	ea	5,336.00	149,408		
1319	225A 120/208V panelboard	6	ea	2,670.00	16,020		
1320	200A 120/208V panelboard	4	ea	2,500.00	10,000		
1321	150A 120/208V panelboard	1	ea	2,320.00	2,320		
1322	100A 120/208V panelboard	27	ea	1,600.00	43,200		
1323	Power monitoring	1	ls	25,000.00	25,000		
1324	225A disconnect	1	ea	2,000.00	2,000		
1325	100A disconnect	1	ea	950.00	950		
1326	60A disconnect	2	ea	500.00	1,000		
1327	Feeders:						
1328	225A CU feed	280	lf	51.25	14,350		
1329	200A CU feed	600	lf	45.00	27,000		
1330	175A CU feed	100	lf	41.00	4,100		
1331	125A CU feed	450	lf	32.00	14,400		
1332	100A CU feed	2,500	lf	25.00	62,500		
1333	80A CU feed	100	lf	24.00	2,400		
1334	70A CU feed	440	lf	22.00	9,680		
1335	50A CU feed	250	lf	13.50	3,375		
1336	4000A AL feed	650	lf	874.00	568,100		
1337	2500A AL feed	710	lf	546.25	387,838		
1338	1200A AL feed	1,300	lf	282.25	366,925		
1339	1000A AL feed	70	lf	218.50	15,295		
1340	800A AL feed	310	lf	186.60	57,846		
1341	600A AL feed	270	lf	135.50	36,585		
1342	400A AL feed	1,020	lf	94.35	96,237		
1343	225A AL feed	2,800	lf	43.60	122,080		
1344	Feeders discount	(1)	ls	100,000.00	(100,000)		
1345	Emergency power						
1346	2000KW diesel emergency generator with sound WP cover	1	ea	800,000.00	800,000		
1347	400KW portable emergency generator, per spec (for construction Phasing)	1	ls	25,000.00	25,000		
1348	Fuel for testing	1	ls	10,000.00	10,000		
1349	Remote annunciator w/controls and E-stop	1	ea	10,000.00	10,000		
1350	400A MTS	1	ea	5,425.00	5,425		
1351	3000A 480/277V automatic transfer switch	2	ea	48,000.00	96,000		
1352	400A 480/277V automatic transfer switch	2	ea	7,980.00	15,960		
1353	3000A 277/480V switchboard	1	ea	66,500.00	66,500		
1354	2500A 277/480V switchboard	2	ea	75,000.00	150,000		
1355	1200A 277/480V switchboard	1	ea	49,000.00	49,000		
1356	800A 277/480V distribution panelboard	2	ea	20,000.00	40,000		
1357	600A 277/480V distribution panelboard	3	ea	16,000.00	48,000		
1358	400A 277/480V distribution panelboard	10	ea	6,500.00	65,000		
1359	400A 277/480V panelboard	9	ea	3,280.00	29,520		
1360	225A 277/480V panelboard	13	ea	2,670.00	34,710		
1361	100A 277/480V panelboard	16	ea	1,600.00	25,600		
1362	175KVA transformer	1	ea	13,000.00	13,000		
1363	150KVA transformer	1	ea	11,610.00	11,610		
1364	112.5KVA transformer	3	ea	9,367.00	28,101		
1365	100KVA transformer	2	ea	8,000.00	16,000		
1366	75KVA transformer	8	ea	7,625.00	61,000		
1367	45KVA transformer	1	ea	5,536.00	5,536		
1368	30KVA transformer	1	ea	4,725.00	4,725		
1369	600A 120/208V distribution panelboard	2	ea	16,000.00	32,000		
1370	400A 120/208V distribution panelboard	1	ea	6,500.00	6,500		
1371	400A 120/208V double tub panelboard	1	ea	6,400.00	6,400		
1372	400A 120/208V panelboard	1	ea	3,280.00	3,280		

90% Construction Document Estimate

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1373	300A 120/208V panelboard	3	ea	300.00	900		
1374	225A 120/208V double tub panelboard	4	ea	5,400.00	20,400		
1375	225A 120/208V panelboard	19	ea	2,670.00	50,730		
1376	150A 120/208V panelboard	2	ea	2,200.00	4,400		
1377	100A 120/208V panelboard	20	ea	1,600.00	32,000		
1378	Pull boxes	6	ea	900.00	5,400		
1379	Feeders:						
1380	600A CU feed	30	lf	159.40	4,782		
1381	500A CU feed	30	lf	126.75	3,803		
1382	400A CU feed	110	lf	111.00	12,210		
1383	300A CU feed	45	lf	65.00	2,925		
1384	250A CU feed	60	lf	59.00	3,540		
1385	225A CU feed	880	lf	51.25	45,100		
1386	175A CU feed	110	lf	41.00	4,510		
1387	150A CU feed	40	lf	34.00	1,360		
1388	125A CU feed	200	lf	32.00	6,400		
1389	100A CU feed	2,000	lf	25.00	50,000		
1390	70A CU feed	30	lf	22.00	660		
1391	50A CU feed	30	lf	13.50	405		
1392	360A MI cable	60	lf	222.00	13,320		
1393	310A MI cable	650	lf	150.00	97,500		
1394	300A MI cable	420	lf	130.00	54,600		
1395	3000A AL feed	1,120	lf	656.00	734,720		
1396	2000A AL feed	60	lf	437.00	26,220		
1397	1200A AL feed	180	lf	282.25	50,805		
1398	800A AL feed	350	lf	186.60	65,310		
1399	600A AL feed	450	lf	135.50	60,975		
1400	400A AL feed	2,400	lf	94.35	226,440		
1401	300A AL feed	150	lf	55.25	8,288		
1402	225A AL feed	2,050	lf	43.60	89,380		
1403	Feeders discount	(1)	ls	100,000.00	(100,000)		
1404	<u>Photovoltaic</u>						
1405	Roof mount PV arrays					Future	
1406	400A 277/480V panelboard	2	ea	3,300.00	6,600		
1407	225A 277/480V panelboard	2	ea	2,700.00	5,400		
1408	200A disconnect switch WP	7	ea	2,550.00	17,850		
1409	Feeders: <i>feeder lengths allowed, drawings incomplete</i>						
1410	1200A AL feed	1,300	lf	282.25	366,925		
1411	400A AL feed	700	lf	94.35	66,045		
1412	255A AL feed	200	lf	43.60	8,720		
1413	175A AL feed	700	lf	34.85	24,395		
1414	Rough-in with conduit and backboxes	1	ls	15,000.00	15,000		
1415	<u>Equipment Wiring</u>						
1416	<i>Note: riser, mech schedules, & depicted points do not match, scope incomplete</i>						
1417	ACCU 30A feed, connection & 30A FSS	3	ea	1,530.00	4,590		
1418	ACH 400A feed, connection, allow safety switch	2	ea	22,800.00	45,600		
1419	ACHP 800A feed, connection, allow safety switch	1	ea	48,700.00	48,700		
1420	ACHP 400A feed, connection, allow safety switch	2	ea	24,000.00	48,000		
1421	AD feed and connection	1	ea	2,500.00	2,500		
1422	AF feed and connection	2	ea	2,500.00	5,000		
1423	Aerobic digester allow 30A feed & connection	1	ea	1,790.00	1,790		
1424	BD feed and connection	1	ea	2,500.00	2,500		
1425	BG feed and connection	1	ea	2,500.00	2,500		
1426	Boiler 700A feed, connection, allow safety switch	2	ea	26,000.00	52,000		
1427	3HP Boiler pump 20A feed, connection, allow safety switch	4	ea	1,200.00	4,800		
1428	BS feed and connection	13	ea	1,500.00	19,500		
1429	CHW 30A feed, connection & 30A FSS	3	ea	1,365.00	4,095		
1430	20HP CHWP 30A feed and connection	10	ea	2,400.00	24,000		
1431	Compactor allow 30A feed & connection	1	ea	1,790.00	1,790		
1432	CP allow 30A feed & connection	4	ea	1,300.00	5,200		
1433	CS feed and connection	1	ea	2,500.00	2,500		
1434	CUH 30A feed, connection & 30A FSS	1	ea	1,125.00	1,125		
1435	DF 30A feed, connection & MMS	4	ea	1,675.00	6,700		
1436	DP feed and connection	1	ea	2,500.00	2,500		
1437	Dust collector 200A feed, connection, allow 100A safety switch	1	ea	3,600.00	3,600		
1438	EAC feed and connection	1	ea	2,500.00	2,500		
1439	ECUH feed and connection	5	ea	1,500.00	7,500		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1440	EF 20A feed, connection & combo MMS, switch with pilot light	15	ea	1,200.00	18,000		
1441	Elevator controller 70A feed, connection & 100A FSS	2	ea	4,490.00	8,980		
1442	Elevator fan feed, connection & NFSS, allow 30A	1	ea	1,890.00	1,890		
1443	Elevator lit feed, connection & FSS, allow 30A	1	ea	1,890.00	1,890		
1444	Elevator lit feed, connection & NFSS, allow 30A	1	ea	1,250.00	1,250		
1445	ERU 100A feed, connection & 100A FSS	1	ea	5,500.00	5,500		
1446	ERU 70A feed, connection & 100A FSS WP	1	ea	4,000.00	4,000		
1447	ERU 45A feed, connection & 60A FSS	1	ea	3,200.00	3,200		
1448	ERU 20A feed, connection & 30A FSS	1	ea	1,500.00	1,500		
1449	EUH 30A feed, connection & 30A FSS	3	ea	1,225.00	3,675		
1450	EWH 30A feed, connection & MMS	19	ea	850.00	16,150		
1451	F 20A feed & connection	10	ea	1,010.00	10,100		
1452	FCB 20A feed & connection	150	ea	600.00	90,000		
1453	FCU 20A feed, connection & MMS	44	ea	450.00	19,800		
1454	Fire pump 225A feed (emergency power)				See Site Work		
1455	Fire pump 225A feed (normal power)	60	lf	51.00	3,060		
1456	Fire pump connection	1	ea	4,500.00	4,500		
1457	Food waste recycling system feed & connection, allow 30A	1	ea	1,800.00	1,800		
1458	Power for future vapor mitigation fans	18	ea	900.00	16,200		
1459	FPB 20A feed, connection & MMS	32	ea	725.00	23,200		
1460	Heat tracing, allow	1	ls	15,000.00	15,000		
1461	HP 40A feed & connection	1	ea	1,065.00	1,065		
1462	HRCU feed, connection & safety switch, allow 60A	61	ea	3,200.00	195,200		
1463	HRU 125A feed, connection & 200A FSS WP	5	ea	7,580.00	37,900		
1464	HRU 100A feed, connection & 100A FSS WP	3	ea	4,600.00	13,800		
1465	HRU 70A feed, connection & 100A FSS WP	2	ea	4,000.00	8,000		
1466	HRU 60A feed, connection & 60A FSS WP	1	ea	3,800.00	3,800		
1467	HRU 45A feed, connection & 60A FSS WP	2	ea	3,200.00	6,400		
1468	HRU 40A feed, connection & 60A FSS WP	1	ea	3,000.00	3,000		
1469	HRU 35A feed, connection & 60A FSS WP	1	ea	2,500.00	2,500		
1470	HV 100A feed, connection & 100A FSS WP	1	ea	7,585.00	7,585		
1471	20HP HWP 30A feed, connection, allow safety switch	6	ea	2,400.00	14,400		
1472	Jockey 20A feed, connection & 30A FSS	1	ea	1,325.00	1,325		
1473	JT feed and connection	1		2,500.00	2,500		
1474	Kiln feed, connection & NFSS, allow 60A	4	ea	1,740.00	6,960		
1475	Kiln vent feed, connection & NFSS, allow 30A	2	ea	1,155.00	2,310		
1476	LA feed and connection	2	ea	2,500.00	5,000		
1477	30A MAU feed and connection	1	ea	3,000.00	3,000		
1478	MC controller	9	ea	1,500.00	13,500		
1479	ML feed and connection	1	ea	2,500.00	2,500		
1480	PL feed and connection	1	ea	2,500.00	2,500		
1481	Projection screen feed, connection & control station, allow 30A	1	ea	2,200.00	2,200		
1482	PS feed and connection	3	ea	2,500.00	7,500		
1483	RFCU feed and connection	136	ea	250.00	34,000		
1484	RT feed and connection	1	ea	2,500.00	2,500		
1485	TS feed and connection	2	ea	2,500.00	5,000		
1486	UV 30A feed, connection & 30A FSS	1	ea	1,120.00	1,120		
1487	VAV feed & connection	37	ea	650.00	24,050		
1488	VRF feed & connection	151	ea	650.00	98,150		
1489	VSD connection	48	ea	650.00	31,200		
1490	Kitchen/Servery equipment feed and connections				0		
1491	50A feed and connection	1	ea	1,100.00	1,100		
1492	40A feed and connection	1	ea	900.00	900		
1493	30A feed and connection	4	ea	800.00	3,200		
1494	20A feed and connection	20	ea	750.00	15,000		
1495	Cooler CU 30A feed, connection & 30A FSS WP	1	ea	1,500.00	1,500		
1496	Freezer CU 30A feed, connection & 30A FSS WP	1	ea	1,500.00	1,500		
1497	Gymnasium:						
1498	Power to scoreboard & control stations	2	loc	3,500.00	7,000		
1499	MB feed & connection, allow 30A	1	ea	1,550.00	1,550		
1500	BB feed & connection, allow 30A	1	ea	1,500.00	1,500		
1501	Motorized bleacher feed, connection & FSS	2	ea	1,800.00	3,600		
1502	Power special purpose receptacle 14 & control to motorized backstop	7	ea	1,500.00	10,500		
1503	Conn ST shot timer	12	ea	100.00	1,200		
1504	Conn BC	1	ea	100.00	100		
1505	Conn SB scoreboard	3	ea	100.00	300		
1506	Conn MC	1	ea	100.00	100		
1507	SUBTOTAL				7,785,127		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

1508							
1509	D5020 LIGHTING & POWER						
1510	<u>Lighting</u>						
1511	Exit	244	ea	344.00	83,936		
1512	PC01-4	55	ea	480.00	26,400		
1513	PC01-6	29	ea	720.00	20,880		
1514	PC01-8	416	ea	960.00	399,360		
1515	PC01A	149	ea	960.00	143,040		
1516	PC01B	125	ea	960.00	120,000		
1517	PC02-10	4	ea	1,500.00	6,000		
1518	PC02-12	2	ea	1,800.00	3,600		
1519	PC02-16	5	ea	2,400.00	12,000		
1520	PC02-4	29	ea	600.00	17,400		
1521	PC02-6	34	ea	900.00	30,600		
1522	PC02-8	149	ea	1,200.00	178,800		
1523	PC04	79	ea	179.00	14,141		
1524	PC04-2	2	ea	158.00	316		
1525	PC04A	27	ea	196.00	5,292		
1526	PC05	6	ea	2,600.00	15,600		
1527	PC05RD	17	ea	2,600.00	44,200		
1528	PC06	8	ea	3,153.00	25,224		
1529	PC07	30	ea	365.00	10,950		
1530	PC08	36	ea	289.00	10,404		
1531	PC10	1	ea	2,065.00	2,065		
1532	PC10RD	6	ea	2,065.00	12,390		
1533	PC12	2	ea	1,536.00	3,072		
1534	PC13D	45	ea	842.00	37,890		
1535	PC14	20	ea	622.00	12,440		
1536	PC15	3	ea	8,165.00	24,495		
1537	PC16-4	28	ea	564.00	15,792		
1538	PC16-6	14	ea	846.00	11,844		
1539	PC16-8	127	ea	1,128.00	143,256		
1540	PC16-110	2	ea	15,510.00	31,020		
1541	PC16A-04	17	ea	564.00	9,588		
1542	PC16A-08	36	ea	1,128.00	40,608		
1543	PC16B-08	18	ea	1,128.00	20,304		
1544	PC-18RD	2	ea	1,128.00	2,256		
1545	PC19-4	9	ea	384.00	3,456		
1546	PC19-4RD	2	ea	384.00	768		
1547	PC19-6	125	ea	576.00	72,000		
1548	PC19-6RD	16	ea	576.00	9,216		
1549	PC19-8	76	ea	768.00	58,368		
1550	PC19-8RD	31	ea	768.00	23,808		
1551	PC20-4	4	ea	620.00	2,480		
1552	PC20-6	3	ea	930.00	2,790		
1553	PC20-8	16	ea	1,240.00	19,840		
1554	PC23-100	109	lf	130.00	14,170		
1555	PC23	6	ea	900.00	5,400		
1556	PC24-4	6	ea	524.00	3,144		
1557	PC24-4RD	4	ea	524.00	2,096		
1558	PC24-8	17	ea	1,048.00	17,816		
1559	PC24-8RD	8	ea	1,048.00	8,384		
1560	PC25	22	ea	438.00	9,636		
1561	PC27	4	ea	2,400.00	9,600		
1562	PC27RD	1	ea	2,400.00	2,400		
1563	PC29RD	12	ea	2,400.00	28,800		
1564	PC30	4	ea	600.00	2,400		
1565	PC31RD	7	ea	576.00	4,032		
1566	RB03	1,139	ea	78.00	88,842		
1567	RB04	8	ea	312.00	2,496		
1568	RB06-48	1	ea	10,800.00	10,800		
1569	RB07-8	14	ea	1,800.00	25,200		
1570	RB08	1	ea	1,008.00	1,008		
1571	RB08-12	2	ea	1,008.00	2,016		
1572	RB08-20	3	ea	1,680.00	5,040		
1573	RB08-24	4	ea	2,016.00	8,064		
1574	RB09	16	ea	668.00	10,688		
1575	RB09T	17	lf	110.00	1,870		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1576	RB09-2	3	ea	200.00	600		
1577	RB11	25	ea	1,420.00	35,500		
1578	RB13-4	1	ea	620.00	620		
1579	RB13-6	3	ea	930.00	2,790		
1580	RB13-8	1	ea	1,240.00	1,240		
1581	RB16RD	16	ea	554.00	8,864		
1582	RB16AT	62	ea	554.00	34,348		
1583	RB16T	300	lf	110.00	33,000		
1584	RB16T-4	17	ea	554.00	9,418		
1585	RC01	42	ea	277.00	11,634		
1586	RC02	36	ea	319.00	11,484		
1587	RC03	4	ea	319.00	1,276		
1588	RC04	2	ea	1,702.00	3,404		
1589	RC04-2	1	ea	850.00	850		
1590	RC04-4	10	ea	1,702.00	17,020		
1591	RC04-8	1	ea	1,702.00	1,702		
1592	RC05-2	4	ea	168.00	672		
1593	RC05-3	2	ea	252.00	504		
1594	RC05-4	32	ea	336.00	10,752		
1595	RC05-6	516	ea	504.00	260,064		
1596	RC05-8	15	ea	672.00	10,080		
1597	RC05A-3	2	ea	270.00	540		
1598	RC05A-4	1	ea	405.00	405		
1599	RC05A-6	31	ea	540.00	16,740		
1600	RC06-4	34	ea	360.00	12,240		
1601	RC06-6	42	ea	540.00	22,680		
1602	RC06-7	2	ea	630.00	1,260		
1603	RC06-8	36	ea	720.00	25,920		
1604	RC06-10	1	ea	900.00	900		
1605	RC06-24	1	ea	2,160.00	2,160		
1606	RC07-4	1	ea	336.00	336		
1607	RC07-5	4	ea	420.00	1,680		
1608	RC07-8	8	ea	672.00	5,376		
1609	RC09	35	ea	379.00	13,265		
1610	RC13	57	ea	470.00	26,790		
1611	RC13RD	12	ea	470.00	5,640		
1612	RC14	162	ea	191.00	30,942		
1613	RC15	28	ea	542.00	15,176		
1614	RC16	19	ea	319.00	6,061		
1615	RC17	139	ea	470.00	65,330		
1616	RC17T	18	ea	470.00	8,460		
1617	RC17RD	18	ea	470.00	8,460		
1618	RC19	15	ea	470.00	7,050		
1619	RC22	40	ea	220.00	8,800		
1620	RC23	21	ea	224.00	4,704		
1621	RC24	195	ea	224.00	43,680		
1622	RC27TRD	60	ea	488.00	29,280		
1623	RC28	20	ea	266.00	5,320		
1624	RC29	4	ea	160.00	640		
1625	RC31	16	ea	632.00	10,112		
1626	RC32	112	ea	210.00	23,520		
1627	RC34	124	ea	214.00	26,536		
1628	RC42	13	ea	258.00	3,354		
1629	RC44	33	ea	416.00	13,728		
1630	RC52	23	ea	200.00	4,600		
1631	RC54	152	ea	223.00	33,896		
1632	RC56	43	ea	223.00	9,589		
1633	RG02	2	ea	500.00	1,000		
1634	RW01 connection only	46	ea	100.00	4,600		
1635	RW02	27	ea	579.00	15,633		
1636	SC01??	16	ea	413.00	6,608		
1637	SC03??	9	ea	413.00	3,717		
1638	SC04	19	ea	179.00	3,401		
1639	SC08??	18	ea	413.00	7,434		
1640	SC14??	2	ea	500.00	1,000		
1641	SC18	47	ea	356.00	16,732		
1642	SC18P	13	ea	356.00	4,628		
1643	SW02	4	ea	1,820.00	7,280		

90% Construction Document Estimate

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1644	SW03	19	ea	524.00	9,956		
1645	SW04	132	ea	216.00	28,512		
1646	SW04 power supply, allow	2	ea	1,000.00	2,000		
1647	SW05-4	2	ea	1,480.00	2,960		
1648	SW05-6	3	ea	2,220.00	6,660		
1649	SW05-8	15	ea	2,960.00	44,400		
1650	SW06	11	ea	2,400.00	26,400		
1651	SW06-4	2	ea	2,400.00	4,800		
1652	SW06-6	1	ea	2,400.00	2,400		
1653	SW07	3	ea	412.00	1,236		
1654	SW08-03	1	ea	375.00	375		
1655	SW08-04	24	ea	500.00	12,000		
1656	SW08-06	8	ea	750.00	6,000		
1657	SW08-08	42	ea	1,000.00	42,000		
1658	SW09-4	39	ea	509.00	19,851		
1659	SW10	5	ea	848.00	4,240		
1660	SW11	10	ea	224.00	2,240		
1661	TE-01 68 LF	3	ea	1,700.00	5,100		
1662	TE-01 30 LF	5	ea	750.00	3,750		
1663	TG-01 head	36	ea	383.00	13,788		
1664	TM01	12	ea	632.00	7,584		
1665	TM03	11	ea	632.00	6,952		
1666	TR01, head	36	ea	150.00	5,400		
1667	TR01 (Track)	249	lf	50.00	12,450		
1668	TR02 (Track)	8	ea	50.00	400		
1669	TR03 (Track)	51	ea	50.00	2,550		
1670	UC01	492	ea	220.00	108,240		
1671	UC01-4	17	ea	220.00	3,740		
1672	Discount on lighting fixture quote	(1)	ls	170,040.00	(170,040)		
1673	<u>Lighting control system</u>						
1674	Lighting control panel	42	ea	2,500.00	105,000		
1675	Lighting control system	408,500	sf	0.35	142,975		
1676	DS wireless photocell (daylight sensor)	233	ea	100.00	23,300		
1677	Four way switch	1	ea	34.00	34		
1678	LD 0-10v dimmer w control wiring to fixture	44	ea	120.00	5,280		
1679	LV wireless wall switch w On-Off Raise-Lower push buttons	719	ea	28.00	20,132		
1680	LVD	1	ea	130.00	130		
1681	LVO Wireless low voltage over ride switch	85	ea	65.00	5,525		
1682	NB wireless network bridge	222	ea	75.00	16,650		
1683	OS/OS1/VS Occupancy/vacancy sensor	1,108	ea	180.00	199,440		
1684	OSL	9	ea	180.00	1,620		
1685	PC	3	ea	210.00	630		
1686	PS	2	ea	210.00	420		
1687	R emergency bypass relay	105	ea	150.00	15,750		
1688	RD	81	ea	125.00	10,125		
1689	Single pole switch	55	ea	30.00	1,650		
1690	Single pole switch WP	2	ea	40.00	80		
1691	SLV2	4	ea	65.00	260		
1692	SLV3	5	ea	75.00	375		
1693	LV2	21	ea	100.00	2,100		
1694	LV3	9	ea	110.00	990		
1695	LV4	33	ea	120.00	3,960		
1696	Vacancy sensor	517	ea	100.00	51,700		
1697	<u>Lighting circuitry</u>						
1699	Device plate	900	ea	5.25	4,725		
1700	Device box	8,250	ea	29.40	242,550		
1701	3/4" conduit	32,500	lf	6.00	195,000		
1702	#12 THHN	195,000	lf	0.85	165,750		
1703	12-2 MC cable	73,000	lf	4.00	292,000		
1704	12-3 MC cable	24,300	lf	4.75	115,425		
1705	Cat cabling	75,000	lf	1.10	82,500		
1706	<u>Branch devices</u>						
1707	Duplex receptacle	2,130	ea	26.00	55,380		
1708	Duplex receptacle, AV drawings	72	ea	26.00	1,872		
1709	Duplex receptacle in floor box	11	ea	26.00	286		
1710	Double duplex receptacle	518	ea	50.00	25,900		
1711	Double duplex receptacle, AV drawings	6	ea	50.00	300		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

1712	Double duplex receptacle, in floor box	44	ea	50.00	2,200		
1713	GFI duplex receptacle	925	ea	42.00	38,850		
1714	GFI double duplex receptacle	8	ea	80.00	640		
1715	Special 13 20A L5-20R twist lock	12	ea	65.00	780		
1716	Special 14 30A35-30R twist lock	1	ea	75.00	75		
1717	Special 15 20A L6-20R twist lock	3	ea	65.00	195		
1718	Special 16 30A L6-30R twist lock	25	ea	75.00	1,875		
1719	Special 17 20A L15-20R twist lock	3	ea	65.00	195		
1720	Special 4 GFI	5	ea	85.00	425		
1721	Special 3 50A 5-50R	4	ea	85.00	340		
1722	Special 7 10-30R	2	ea	75.00	150		
1723	Special 8 10/50R	18	ea	85.00	1,530		
1724	Special purpose receptacle, AV drawings	7	ea	65.00	455		
1725	Connection to aisle light at seat arm	59	ea	100.00	5,900		
1726	Connection to auditorium equip	16	ea	100.00	1,600		
1727	Connection to AVR	5	ea	100.00	500		
1728	Connection to black box equip	4	ea	100.00	400		
1729	Connection to card reader	26	ea	100.00	2,600		
1730	Connection to control panel	9	ea	100.00	900		
1731	Connection to door holder	28	ea	100.00	2,800		
1732	Connection to door operator	8	ea	100.00	800		
1733	Connection to door operator motor	16	ea	100.00	1,600		
1734	Connection to ESV	1	ea	100.00	100		
1735	Connection to ESV WP	2	ea	120.00	240		
1736	Connection to fire alarm panel	26	ea	100.00	2,600		
1737	Connection to hand dryer	23	ea	85.00	1,955		
1738	Connection to int	2	ea	100.00	200		
1739	Connection to LL	4	ea	100.00	400		
1740	Connection to lula lift	2	ea	150.00	300		
1741	Connection to MD	1	ea	100.00	100		
1742	Connection to MR	1	ea	100.00	100		
1743	Connection to MS	33	ea	120.00	3,960		
1744	Connection to MSC	4	ea	150.00	600		
1745	Connection to PWR	1	ea	100.00	100		
1746	Connection to water cooler bottle filler	15	ea	250.00	3,750		
1747	Connection to security LV power supply	17	ea	85.00	1,445		
1748	Connection to unidentified equipment	15	ea	550.00	8,250		
1749	Cord reel with duplex	72	ea	600.00	43,200		
1750	Cord reel with GFI	18	ea	525.00	9,450		
1751	MPS	4	ea	150.00	600		
1752	Rough-in for future catenary lighting	12	ea	100.00	1,200		
1753	FB AV drawings, 12 gang	4	ea	1,200.00	4,800		
1754	Floor box/Poke thru	55	ea	500.00	27,500		
1755	<u>Branch circuitry</u>						
1756	Device plate WP	76	ea	20.00	1,520		
1757	Device plate	3,600	ea	5.25	18,900		
1758	Device box	4,000	ea	29.40	117,600		
1759	3/4" conduit	18,000	lf	6.00	108,000		
1760	#12 THHN	110,000	lf	0.85	93,500		
1761	#10 THHN	4,000	lf	1.00	4,000		
1762	#8 THHN	2,000	lf	1.40	2,800		
1763	12-2 MC cable	40,000	lf	4.00	160,000		
1764	12-3 MC cable	13,500	lf	4.70	63,450		
1765	1" EMT in floor, allow to FB/PT	700	lf	7.00	4,900		
1766	SUBTOTAL				5,770,904		
1767							

D5030 COMMUNICATION & SECURITY SYSTEMS
Telecommunications - Structured Cabling

1770	MDF fit-out closet	1	loc	8,000.00	8,000		
1771	IDF fit-out closet	12	loc	4,000.00	48,000		
1772	Rack	15	ea	850.00	12,750		
1773	Network Server				By owner		
1774	1-port device (phone)	179	ea	15.00	2,685		
1775	1-port device	70	ea	15.00	1,050		
1776	2-port device	560	ea	30.00	16,800		
1777	4-port device	24	ea	60.00	1,440		
1778	6-port device	1	ea	90.00	90		
1779	8-port device	8	ea	120.00	960		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1780	10-port device	2	ea	150.00	300		
1781	Data CAM	131	ea	22.00	2,882		
1782	Data CAM WP	10	ea	32.00	320		
1783	CAM	4	ea	22.00	88		
1784	TV device	153	ea	15.00	2,295		
1785	WAP device	323	ea	350.00	113,050		
1786	WAP device WP	15	ea	400.00	6,000		
1787	Cat. 6a/5e cable	350,000	lf	1.10	385,000		
1788	Backbone cabling: 25pr cat CU & 25 strand MM fiber	2,000	lf	15.00	30,000		
1789	Rough-in						
1790	MDF fit-out rough-in	1	loc	5,000.00	5,000		
1791	IDF fit-out rough-in	12	loc	2,500.00	30,000		
1792	Device box with 1-1/4" conduit stub to accessible ceiling	510	ea	110.00	56,100		
1793	2 gang device box with 1-1/4" conduit stub to accessible ceiling	748	ea	150.00	112,200		
1794	12' cable tray (closets)	220	lf	60.00	13,200		
1795	4" sleeve	60	ea	250.00	15,000		
1796	4" EMT	6,000	lf	31.70	190,200		
1797	Closet backboard	13	ea	500.00	6,500		
1798	System Grounding	1	ls	5,000.00	5,000		
1799	Fire Alarm						
1800	Fire alarm control panel	2	ea	40,000.00	80,000		
1801	Fire alarm terminal cabinet	15	ea	1,500.00	22,500		
1802	FSCP	1	ea	1,600.00	1,600		
1803	Remote annunciator	2	ea	1,600.00	3,200		
1804	Knox box	4	ea	330.00	1,320		
1805	Radio Master box	1	ea	6,500.00	6,500		
1806	Beacon	4	ea	281.00	1,124		
1807	Manual pull station	94	ea	107.00	10,058		
1808	Manual pull station WP	2	ea	117.00	234		
1809	Smoke detector	392	ea	148.00	58,016		
1810	Heat detector, allow	2	ea	148.00	296		
1811	CO detector	45	ea	148.00	6,660		
1812	Duct smoke detector with remote test switch, allow	24	ea	547.00	13,128		
1813	Audio/visual device	731	ea	151.00	110,381		
1814	Audio/visual device WP	4	ea	161.00	644		
1815	Combination AV/CO device	2	ea	200.00	400		
1816	Visual device	197	ea	130.00	25,610		
1817	Audio device	8	ea	130.00	1,040		
1818	Remote alarm indicator	53	ea	203.00	10,759		
1819	Magnetic door holder	91	ea	197.00	NIC		
1820	Lula connection	1	ea	350.00	350		
1821	AR	1	ea	500.00	500		
1822	MDC	1	ea	500.00	500		
1823	BP	9	ea	500.00	4,500		
1824	Connection to elevator status panel	1	ea	147.00	147		
1825	Connection to fire suppression system	1	ea	147.00	147		
1826	Kitchen connection	2	ea	147.00	294		
1827	Elevator recall connection	4	ea	147.00	588		
1828	Tamper/flow switch	82	ea	235.00	19,270		
1829	Control/monitor module	100	ea	235.00	23,500		
1830	Device box WP	6	ea	40.00	240		
1831	Device box	1,880	ea	29.40	55,272		
1832	3/4" conduit	19,740	lf	6.00	118,440		
1833	FA cable	59,220	lf	1.00	59,220		
1834	FAMC cable	46,060	lf	5.00	230,300		
1835	Testing & programming	1	ls	15,700.00	15,700		
1836	Bi-Directional Amplifier System (DAS)						
1837	Bi-Directional Amplifier System	1	ls	175,000.00	175,000		
1838	BDA amplifier antenna	1	ea		Included		
1839	DAS device	80	ea		Included		
1840	DAS communication port	80	ea	22.00	1,760		
1841	Communication cabling	15,000	lf	1.20	18,000		
1842	2 gang device box with 1-1/4" conduit stub to accessible ceiling	80	ea	200.00	16,000		
1843	Two-Way Communication						
1844	Two-Way Communication	1	ls	25,000.00	25,000		
1845	Public Address/Clock System						
1846	Head end	1	ls	20,000.00	20,000		
1847	Phone/Handset, allow 1/telephone port	179	ea	250.00	44,750		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1848	Clock	94	ea	150.00	14,100		
1849	Clock, Gym	6	ea	250.00	1,500		
1850	Clock WP	1	ea	200.00	200		
1851	Exterior building mounted clock	1	ls	50,000.00	50,000		
1852	Speakers, volume control and cabling , not depicted at this scope level	408,600	sf	0.30	122,580		
1853	Speaker, ceiling mount	850	ea	120.00	102,000		
1854	Speaker, wall mount	82	ea	120.00	9,840		
1855	Speaker, wall mount WP	11	ea	200.00	2,200		
1856	Rough-in						
1857	Ceiling speaker back box	850	ea	40.00	34,000		
1858	Device box with conduit stub	93	ea	85.00	7,905		
1859	Speaker cabling	48,000	lf	1.20	57,600		
1860	<i>No Clock System Riser - estimator has assumed clocks are battery powered</i>						
1861	Classroom Speech Amplification						
1862	Teach Logic IRM-5650/CS4 system equipment	130	ea	1,600.00	208,000		
1863	IMA-520 Maxin III Amplifier				Included		
1864	IRH-35 handheld microphone transmitter				Included		
1865	IRT-60 Sapphire pendant/neck worn classroom microphone transmitter				Included		
1866	BRC-55 Drop-in charger				Included		
1867	SP-628 ceiling speaker with speaker wire x4				Included		
1868	SA - not on Legend, assumed this is a Speech Amplification system amplifier	130	ea	125.00	16,250		
1869	Rough-in						
1870	Wall box with conduit stub & device installation	130	ea	85.00	11,050		
1871	Speakers, assumes no back box, plenum cable, installation of speaker & cabling only	520	ea	75.00	39,000		
1872	Testing & set up	130	ea	750.00	97,500		
1873	Auditorium						
1874	Audio visual equipment, installation & LV cabling	1	ls	150,000.00	150,000		
1875	Production intercom system				Included above		
1876	Assistive Listening system				Included above		
1877	Audio visual rough-in:						
1878	12x12x4" box	5	ea	85.00	425		
1879	12x12x6" box	4	ea	100.00	400		
1880	1 gang back box	15	ea	29.40	441		
1881	2 gang back box	6	ea	29.40	176		
1882	3 gang back box	4	ea	49.00	196		
1883	4 gang back box	8	ea	49.00	392		
1884	4x4x4" box	4	ea	28.00	112		
1885	8x8x4" box	11	ea	49.00	539		
1886	Box as required	1	ea	250.00	250		
1887	Speaker, comes with back box	16	ea	65.00	Included		
1888	3/4" EMT	5,100	lf	6.00	30,600		
1889	1" EMT	3,000	lf	7.25	21,750		
1890	1-1/4" EMT	1,700	lf	9.50	16,150		
1891	1-1/2" EMT	550	lf	11.00	6,050		
1892	2" EMT	200	lf	14.50	2,900		
1893	Stage Lighting:						
1894	Rigging system equipment & installation	1	ls		See equipment		
1895	Power to rigging equipment, Hoist				NIC		
1896	Power to rigging control station				NIC		
1897	Stage dimming system, allowance per Barbizon 8/5/20	1	ls	582,898.50	582,899		
1898	Stage fixture and accessory package, allowance per Barbizon 8/5/20				Incl. above		
1899	Company switch, 200A	1	ea	2,500.00	Incl. above		
1900	Feed to company switch	200	lf	45.00	9,000		
1901	Dimmer rack	3	ea		Incl. above		
1902	Rack installation	3	ea	1,500.00	4,500		
1903	225A feed to each rack, allow to main electric room (not depicted on riser yet)	600	lf	51.25	30,750		
1904	Lighting control rack	1	ls		Incl. above		
1905	Rack installation & power	1	ea	1,000.00	1,000		
1906	ELTS	1	ea		Incl. above		
1907	ELTS installation	1	ea	1,000.00	1,000		
1908	Feed to ELTS, allow 200A	200	lf	45.00	9,000		
1909	Control:						
1910	CC1	1	ea		Incl. above		
1911	CC2	1	ea		Incl. above		
1912	EP	2	ea		Incl. above		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
1913	FP	1	ea		Incl. above		
1914	TP	1	ea		Incl. above		
1915	WL1	5	ea		Incl. above		
1916	WL2	1	ea		Incl. above		
1917	WBB	1	ea		Incl. above		
1918	WBC	1	ea		Incl. above		
1919	1 gang back box	13	ea	29.40	382		
1920	5 gang back box	1	ea	68.00	68		
1921	Floor box	1	ea		Incl. above		
1922	Box per manufacturer	1	ea		Incl. above		
1923	3/4" EMT	8,000	lf	6.00	48,000		
1924	Belden cable	12,000	lf	1.10	13,200		
1925	#14 THHN	1,500	lf	0.80	1,200		
1926	#16 THHN	3,000	lf	0.70	2,100		
1927	Circuitry:						
1928	BP1D	6	ea		Incl. above		
1929	BP1DE	8	ea		Incl. above		
1930	BP1E	8	ea		Incl. above		
1931	BP2DE	11	ea		Incl. above		
1932	BP2E	9	ea		Incl. above		
1933	BR1D	2	ea		Incl. above		
1934	BR1DE	4	ea		Incl. above		
1935	BR1E	5	ea		Incl. above		
1936	BR1F	1	ea		Incl. above		
1937	BR2E	2	ea		Incl. above		
1938	BR2DE	4	ea		Incl. above		
1939	PL3E	1	ea		Incl. above		
1940	SP5DE	4	ea		Incl. above		
1941	Circuit box installation	22	ea	150.00	3,300		
1942	Strip	14	ea		Incl. above		
1943	Strip installation	14	ea	300.00	4,200		
1944	Custom back box	9	ea		Incl. above		
1945	3 gang back box	13	ea	49.00	637		
1946	3/4" EMT	6,000	lf	6.00	36,000		
1947	1" EMT	500	lf	7.25	3,625		
1948	#10 THHN	30,000	lf	1.00	30,000		
1949	Terminations	406	ea	15.00	6,090		
1950	Testing & system start-up				Incl. above		
1951	Initial light plot, installation & focus				Incl. above		
1952	Blackbox Theater/Performing Arts						
1953	Audio visual equipment, installation & LV cabling, allow	1	ls	45,000.00	45,000		
1954	Audio visual rough-in:						
1955	12x12x6" box	2	ea	100.00	200		
1956	2 gang back box	5	ea	29.40	147		
1957	4 gang back box	8	ea	58.00	464		
1958	8x8x4" box	19	ea	49.00	931		
1959	Speaker, comes with back box	2	ea	65.00	Included		
1960	3/4" EMT	2,500	lf	6.00	15,000		
1961	1" EMT	3,000	lf	7.25	21,750		
1962	1-1/4" EMT	400	lf	9.50	3,800		
1963	1-1/2" EMT	500	lf	11.00	5,500		
1964	Stage Lighting:						
1965	Rigging system equipment & installation, allowance per Barbizon	1	ls		See equipment		
1966	Stage dimming system, allowance per Barbizon 8/5/20	1	ls		Incl. above in Auditorium		
1967	Stage fixture and accessory package 8/5/20	1	ls		Incl. above in Auditorium		
1968	ELTS	1	ea		Incl. above		
1969	Feed to ELTS, allow 200A	200	lf	45.00	9,000		
1970	Control:						
1971	CC3	2	ea		Incl. above		
1972	FP	1	ea		Incl. above		
1973	PP	2	ea		Incl. above		
1974	1 gang back box	2	ea	29.40	59		
1975	5 gang back box	2	ea	68.00	136		
1976	Box per manufacturer	1	ea		Incl. above		
1977	3/4" EMT	7,500	lf	6.00	45,000		
1978	Belden cable	12,000	lf	1.10	13,200		
1979	#14 THHN	300	lf	0.80	240		
1980	#16 THHN	600	lf	0.70	420		

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

1981	Circuitry:						
1982	BP1D	3	ea				Incl. above
1983	BP1E	7	ea				Incl. above
1984	BP2DE	6	ea				Incl. above
1985	BP2E	9	ea				Incl. above
1986	BR1DE	5	ea				Incl. above
1987	BR1E	3	ea				Incl. above
1988	Circuit box installation	18	ea	150.00		2,700	
1989	Strip	15	ea				Incl. above
1990	Strip installation	15	ea	300.00		4,500	
1991	Custom back box	10	ea				Incl. above
1992	3 gang back box	8	ea	49.00		392	
1993	3/4" EMT	7,200	lf	6.00		43,200	
1994	#10 THHN	28,000	lf	1.00		28,000	
1995	Terminations	264	ea	15.00		3,960	
1996	Testing & system start-up						Incl. above
1997	Initial light plot, installation & focus						Incl. above
1998	<u>Audio Visual Systems</u>						
1999	Chorus room, carrying previous allowance	1	ls	10,800.00		10,800	
2000	Band room, carrying previous allowance	1	ls	10,800.00		10,800	
2001	Production Lab, carrying previous allowance	1	ls	27,000.00		27,000	
2002	Gymnasium sound system, carrying previous allowance	1	ls	15,000.00		15,000	
2003	Cafeteria sound system, carrying previous allowance	1	ls	15,000.00		15,000	
2004	Gymnasium RI:						
2005	4" square box	31	ea	29.40		911	
2006	4" deep square box	6	ea	29.40		176	
2007	6x6x4" pull box	6	ea	39.00		234	
2008	3/4" EMT	700	lf	6.00		4,200	
2009	1" EMT	800	lf	7.25		5,800	
2010	1-1/4" EMT	300	lf	9.50		2,850	
2011	1-1/2" EMT	100	lf	11.00		1,100	
2012	2" EMT	200	lf	14.50		2,900	
2013	2-1/2" EMT	100	lf	16.50		1,650	
2014	General building AV RI:						
2015	3/4" EMT	500	lf	6.00		3,000	
2016	1" EMT	100	lf	7.25		725	
2017	1-1/2" EMT	300	lf	11.00		3,300	
2018	Conduit to AV devices not yet covered in AV risers: allow 1-1/4" conduit per AVo.O note 2, allow 50' per point	7,800	lf	9.50		74,100	
2019	4x4x4" box	8	ea				
2020	8x8x4" box	24	ea				
2021	10x10x4" box	2	ea	100.00		200	
2022	12x12x4" box	4	ea				
2023	12x12x6" box	6	ea	150.00		900	
2024	1 gang back box	16	ea	29.40		470	
2025	2 gang back box	4	ea	39.00		156	
2026	3 gang back box	9	ea	49.00		441	
2027	4 gang back box	18	ea	58.00		1,044	
2028	Box as required	2	ea	500.00		1,000	
2029	Speaker, assumes comes with back box	103	ea				Included
2030	Loudspeaker back box	2	ea	150.00		300	
2031	<u>Security System</u>						
2032	Head end	1	ls	30,000.00		30,000	
2033	CCTV camera type 1	35	ea	750.00		26,250	
2034	CCTV camera type 2	29	ea	750.00		21,750	
2035	CCTV camera 180 type 7	18	ea	1,200.00		21,600	
2036	CCTV camera 360 type 8	61	ea	1,200.00		73,200	
2037	CCTV camera WP type 22	4	ea	950.00		3,800	
2038	CCTV camera 180 WP	1	ea	1,500.00		1,500	
2039	CCTV camera 180 WP type 26	3	ea	1,500.00		4,500	
2040	CCTV camera 180 WP type 27	5	ea	1,500.00		7,500	
2041	Rough-in						
2042	Device box with conduit stub to accessible ceiling	156	ea	85.00		13,260	
2043	Cabling	16,000	lf	1.25		20,000	
2044	<u>Access Control System</u>						
2045	Head end including workstation with video display for programming & auditing	1	ls	70,000.00		70,000	
2046	BR biometric reader	2	ea	850.00		1,700	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

2047	Card reader	77	ea	600.00	46,200		
2048	Curtain motion sensor	2	ea	200.00	400		
2049	Delayed release exit lock	4	ea	120.00	480		
2050	DMA	1	ea	850.00	850		
2051	Door contact	87	ea	200.00	17,400		
2052	Door release button	8	ea	150.00	1,200		
2053	Duress button	14	ea	150.00	2,100		
2054	Electric strike	1	ea	120.00	120		
2055	Electrified lever lockset	4	ea	150.00	600		
2056	Keypad	6	ea	500.00	3,000		
2057	Local door alarm	9	ea	150.00	1,350		
2058	Low voltage power supply	42	ea	150.00	6,300		
2059	Motion sensor	55	ea	225.00	12,375		
2060	VIC video intercom substation	6	ea	850.00	5,100		
2061	VIM video intercom master station	5	ea	1,500.00	7,500		
2062	VMC video management client	5	ea	1,000.00	5,000		
2063	Door release device connection (device by Div 8)	8	ea	80.00	640		
2064	Electric latch retraction device connection (device by Div 8)	3	ea	80.00	240		
2065	Electric latch retraction panic hardware device connection (device by Div 8)	111	ea	80.00	8,880		
2066	Request to exit device connection (device by Div 8)	1	ea	80.00	80		
2067	Shooting detection sensor	65	ea	500.00	32,500		
2068	Allow for shooting detector sensor system not yet detailed, includes labor, rough-in & cabling	1	ls	160,000.00	160,000		
2069	High/low temperature sensor allowance	1	ls	41,000.00	41,000		
2070	On-floor water sensor and processor allowance	1	ls	41,000.00	41,000		
2071	Rough-in						
2072	3/4" conduit to door junction box	53	ea	85.00	4,505		
2073	1" conduit to door junction box	1	ea	95.00	95		
2074	1" conduit to accessible ceiling	77	ea	90.00	6,930		
2075	4" square box with 3/4" conduit stub to accessible ceiling	1	ea	85.00	85		
2076	4" square box with 3/4" conduit stub to door junction box	191	ea	85.00	16,235		
2077	Device box with conduit stub to accessible ceiling	166	ea	85.00	14,110		
2078	Cabling	35,000	lf	1.10	38,500		
2079	<u>Lightning Protection</u>						
2080	Lightning protection system, allow	1	ls	175,000.00	175,000		
2081	SUBTOTAL					5,411,406	
2082							

D5040 OTHER ELECTRICAL SYSTEMS
Common Work Results

2085	Grounding & bonding	1	ls	25,000.00	25,000	
2086	Coordination study and testing	1	ls	15,000.00	15,000	
2087	Seismic restraints	1	ls	10,000.00	10,000	
2088	Identification	1	ls	2,500.00	2,500	
2089	Fire stopping	1	ls	2,500.00	2,500	
2090	Rigging	1	ls	15,000.00	15,000	
2091	Shop drawings	1	ls	2,500.00	2,500	
2092	Temp power and lights	1	ls	250,000.00	250,000	
2093	Coordination, BIM	1	ls	275,000.00	275,000	
2094	Permits and fees	1	ls	350,000.00	Waived	
2095	SUBTOTAL					597,500
2096						

TOTAL - ELECTRICAL

\$19,564,937

E10 EQUIPMENT
E10 EQUIPMENT, GENERALLY

2103	111300 LOADING DOCK EQUIPMENT					
2105	Loading dock bumpers	1	ls	5,000.00	5,000	
2106						
2107	114500 APPLIANCES					
2108	Full Size Fridge	21	ea	1,600.00	33,600	
2109	UC Fridge	16	ea	1,000.00	16,000	
2110	Full Size Freezer	2	ea	2,000.00	4,000	
2111	UC Freezer	1	ea	1,500.00	1,500	
2112	Microwave	32	ea	500.00	16,000	
2113	Washer	5	ea	1,500.00	7,500	
2114	Dryer	5	ea	1,500.00	7,500	
2115	Dishwasher	12	ea	1,000.00	12,000	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
2116	Wall Oven	6	ea	1,000.00	6,000		
2117	Cook stove	10	ea	1,500.00	15,000		
2118	Exhaust Hood	13	ea	500.00	6,500		
2119	ADA Cooktop	8	ea	1,500.00	12,000		
2120	Ice Machine	1	ea	4,000.00	4,000		
2121	Ice Maker	2	ea	1,500.00	3,000		
2122							
2123	114000 FOODSERVICE EQUIPMENT						
2124	Kitchen equipment (per Kitteridge Budget)	1	ls	700,848.00	700,848		
2125							
2126	116000 LABORATORY EQUIPMENT						
2127	Fume Hoods, ductless	7	ea	32,500.00	227,500		
2128							
2129	116200 THEATRE EQUIPMENT						
2130	<u>Audiovisual Systems & Projection Screens</u>						
2131	Auditorium	1	ls	270,000.00	w/ electrical		
2132	Black Box	1	ls	75,000.00	w/ electrical		
2133	Chorus Room	1	ls	12,000.00	w/ electrical		
2134	Band Room	1	ls	12,000.00	w/ electrical		
2135	Production Lab	1	ls	30,000.00	w/ electrical		
2136	Amphitheater	1	ls	25,000.00	w/ electrical		
2137	<u>Theatrical Lighting Systems & Fixtures</u>						
2138	Main Theater	1	ls	235,000	w/ electrical		
2139	Black Box	1	ls	105,000	w/ electrical		
2140	Amphitheater	1	ls	40,000	w/ electrical		
2141	<u>Theatrical Equipment</u>						
2142	Auditorium Rigging	1	ls	599,735.00	599,735		
2143	Auditorium Platforms	1	ls	102,420.00	102,420		
2144	Auditorium Orchestra Ceiling Panels	1	ls	141,925.00	141,925		
2145	Black Box Theater	1	ls	45,000.00	Incl. above		
2146	Black Box, Platforms	1	ls	55,000.00	F,F & E		
2147							
2148	126100 FIXED AUDIENCE SEATING						
2149	Auditorium fixed seating	736	ea	360.00	264,960		
2150	Auditorium loose seating	81	ea	290.00	23,490		
2151	DLab fixed seating	120	ea	360.00	43,200		
2152							
2153	116600 ATHLETIC EQUIPMENT						
2154	Gym wall pads	1,537	sf	17.00	26,129		
2155	Pre-k multipurpose wall pads	520	sf	17.00	8,840		
2156	Small gym wall pads	1,687	sf	17.00	28,679		
2157	Basketball backstops; swing up; electric operated	7	ea	10,000.00	70,000		
2158	Gymnasium dividing net; electrically operated	1	loc	46,512.00	46,512		
2159	Rock climbing wall, quote provided	1	ls	159,500.00	159,500		
2160	Volleyball net and standards	2	ls	5,000.00	10,000		
2161	Score boards in Gym (per specifications)	2	loc	25,000.00	50,000		
2162	Shot clocks in Gym (per specifications)	6	loc	1,500.00	9,000		
2163	Climbing ropes (per specifications)	2	loc	2,500.00	NIC		
2164	Motorized retractable practice cages at gym (per specifications)	1	loc	10,000.00	10,000		
2165	Wrestling mat hoist system (per specifications)	1	loc	8,000.00	NIC		
2166	Wrestling mat roll-up storage system, overhead	1	loc	10,000.00	10,000		
2167							
2168	119000 MISCELLANEOUS EQUIPMENT						
2169	Vocation and technology equipment, allowance	1	ls	50,000.00	F,F & E		
2170	Kiln	1	ea	5,000.00	5,000		
2171	3D printer	1	ea		F,F & E		
2172	Drying rack	1	ea		F,F & E		
2173	Engraver	1	ea		F,F & E		
2174	Hydrocollator	1	ea		F,F & E		
2175	Pottery wheel	6	ea		F,F & E		
2176	Print press	1	ea		F,F & E		
2177	Slab roller	1	ea		F,F & E		
2178	Wedging board	1	ea		F,F & E		
2179	Whirlpool	1	ea		F,F & E		
2180							
2181	126600 TELESCOPING STANDS						
2182	Telescoping bleachers (1915 seats)	1	ls	344,700.00	344,700		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

2183 SUBTOTAL 3,032,038

 2185 **TOTAL - EQUIPMENT** **\$3,032,038**

 2187 **E20 FURNISHINGS**

 2189 **E2010 FIXED FURNISHINGS**

2191 122100	2192 <i>WINDOW TREATMENT</i>						
2193	Room darkening shades, manual	18,600	sf	7.00	130,200		
2194	Room darkening shades, motorized	1,590	sf	20.00	31,800		
2195	Dual shades, manual	1,390	sf	18.00	25,020		
2196	Motorized shades, blackout	360	sf	20.00	7,200		
2197	Motorized shades atskylights		sf		w/ roofing		
2198	Interior blinds at borrowed lights	7,384	sf	8.00	59,072		
2199	Interior blackout shades at borrowed lights, manual	490	sf	9.00	4,410		
2200	Interior blackout shades at borrowed lights, motorized	385	sf	20.00	7,700		
2201 123000	2202 <i>CASEWORK</i>						
2203	<u>Art classrooms</u>						
2204	Base cabinet with epoxy resin countertop	60	lf	500.00	30,000		
2205	TS 36"	6	ea	1,800.00	10,800		
2206	TW 36"	4	ea	1,800.00	7,200		
2207	Upper cabinet	60	lf	300.00	18,000		
2208	<u>Band/Music Storage/Chorus</u>						
2209	Base cabinet with solid surface countertop	18	lf	450.00	8,100		
2210	TW 36"	3	ea	1,800.00	5,400		
2211	Upper cabinet	18	lf	300.00	5,400		
2212	Music storage	66	lf	800.00	52,800		
2213	<u>Compass Kitchen/Laundry</u>						
2214	Base cabinet with solid surface countertop	35	lf	450.00	15,750		
2215	Oven/Microwave surround 27"	1	ea	1,500.00	1,500		
2216	TW 36"	1	ea	1,800.00	1,800		
2217	Upper cabinet	13	lf	300.00	3,900		
2218	<u>Copy/mail rooms</u>						
2219	Base cabinet with solid surface countertop	14	lf	450.00	6,300		
2220	Mail slots - 4 tier	12	lf	225.00	2,700		
2221	TS 36"	1	ea	1,800.00	1,800		
2222	Upper cabinet	19	lf	300.00	5,700		
2223	<u>Copy/workroom</u>						
2224	Base cabinet with solid surface countertop	11	lf	450.00	4,950		
2225	Upper cabinet	11	lf	300.00	3,300		
2226	<u>Daycare kitchen</u>						
2227	Base cabinet with solid surface countertop	12	lf	450.00	5,400		
2228	Upper cabinet	12	lf	300.00	3,600		
2229	TS 36"	2	ea	1,800.00	3,600		
2230	<u>District entry</u>						
2231	Base cabinet with solid surface countertop	5	lf	450.00	2,250		
2232	Mail slots - 4 tier	5	lf	225.00	1,125		
2233	<u>Dressing rooms</u>						
2234	Single tier upper shelf	51	lf	75.00	3,825		
2235	Wall hung glam counter	78	lf	250.00	19,500		
2236	<u>FACS</u>						
2237	Base cabinet with solid surface countertop	159	lf	450.00	71,550		
2238	Oven/Microwave surround 27"	2	ea	1,500.00	3,000		
2239	Teacher demo table 6'-6" wide	2	ea	2,500.00	5,000		
2240	TS 36"	10	ea	1,800.00	18,000		
2241	Upper cabinet	120	lf	300.00	36,000		
2242	<u>Interview</u>						
2243	Base cabinet with solid surface countertop	20	lf	450.00	9,000		
2244	Upper cabinet	18	lf	300.00	5,400		
2245	<u>LABBB</u>						
2246	Base cabinet with solid surface countertop	34	lf	450.00	15,300		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
2247	Oven/Microwave surround 27"	1	ea	1,500.00	1,500		
2248	TS 36"	3	ea	1,800.00	5,400		
2249	Upper cabinet	39	lf	300.00	11,700		
2250	<u>Language lab</u>						
2251	Base cabinet with solid surface countertop	17	lf	450.00	7,650		
2252	Oven/Microwave surround 27"	1	ea	1,500.00	1,500		
2253	Upper cabinet	9	lf	300.00	2,700		
2254	<u>Kitchen</u>						
2255	Base cabinet with solid surface countertop	18	lf	450.00	8,100		
2256	Oven/Microwave surround 27"	1	ea	1,500.00	1,500		
2257	Upper cabinet	18	lf	300.00	5,400		
2258	<u>LLC - work</u>						
2259	Base cabinet with solid surface countertop	8	lf	450.00	3,600		
2260	Upper cabinet	8	lf	300.00	2,400		
2261	<u>Maker CADD lab</u>						
2262	Base cabinet with epoxy resin countertop	6	lf	500.00	3,000		
2263	TS 36"	2	ea	1,800.00	3,600		
2264	<u>Millbrook lunch</u>						
2265	Base cabinet with solid surface countertop	9	lf	450.00	4,050		
2266	Oven/Microwave surround 27"	1	ea	1,500.00	1,500		
2267	Upper cabinet	9	lf	300.00	2,700		
2268	<u>Mother's room</u>						
2269	Base cabinet with solid surface countertop	7	lf	450.00	3,150		
2270	Upper cabinet	7	lf	300.00	2,100		
2271	<u>Nurse</u>						
2272	Base cabinet with solid surface countertop	13	lf	450.00	5,850		
2273	Upper cabinet	13	lf	300.00	3,900		
2274	<u>Preschool classrooms</u>						
2275	Base cabinet with solid surface countertop	81	lf	450.00	36,450		
2276	TS 36"	18	ea	1,800.00	32,400		
2277	Upper cabinet	81	lf	300.00	24,300		
2278	TS 36"	2	ea	1,800.00	3,600		
2279	<u>Preschool teacher lunch</u>						
2280	Base cabinet with solid surface countertop	11	lf	450.00	4,950		
2281	Upper cabinet	11	lf	300.00	3,300		
2282	<u>Production lab</u>						
2283	TS 36"	2	ea	1,800.00	3,600		
2284	<u>Science classrooms</u>						
2285	Base cabinet with epoxy resin countertop	984	lf	500.00	492,000		
2286	Teacher demo table	17	ea	3,300.00	56,100		
2287	Upper cabinets	900	lf	300.00	270,000		
2288	<u>Science prep</u>						
2289	Base cabinet with epoxy resin countertop	189	lf	500.00	94,500		
2290	TS 36"	17	ea	1,800.00	30,600		
2291	Upper cabinets	189	lf	300.00	56,700		
2292	<u>Smart center</u>						
2293	Base cabinet with solid surface countertop	20	lf	450.00	9,000		
2294	TS 36"	2	ea	1,800.00	3,600		
2295	Upper cabinet	14	lf	300.00	4,200		
2296	<u>Staff lunch</u>						
2297	Base cabinet with solid surface countertop	12	lf	450.00	5,400		
2298	Upper cabinet	12	lf	300.00	3,600		
2299	<u>Teacher planning</u>						
2300	Base cabinet with solid surface countertop	116	lf	450.00	52,200		
2301	Upper cabinet	144	lf	300.00	43,200		
2302	<u>Typical classroom</u>						
2303	Tall storage 48"	72	rms				
2304	TS 30"	72	ea	2,400.00	172,800		
2305	TW 30"	72	ea	1,500.00	108,000		
2306	<u>Trainer</u>						
2307	Base cabinet with solid surface countertop	11	lf	450.00	4,950		
2308	TS 36"	1	ea	1,800.00	1,800		
2309	Upper cabinet	17	lf	300.00	5,100		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

2310	<u>Workplace storage</u>						
2311	Base cabinet with solid surface countertop	7	lf	450.00	3,150		
2312	TS 36"	1	ea	1,800.00	1,800		
2313	Upper cabinet	7	lf	300.00	2,100		
2314	<u>Miscellaneous</u>						
2315	TS 36"	4	ea	1,800.00	7,200		
2316							
2317	124810 ENTRANCE FLOOR MAT AND FRAMES						
2318	Recessed entrance mats		sf	55.00	none shown		
2319	Walk off mats; EM-2	1,680	sf	15.00	25,200		
2320	Walk off mats; EM-3	2,740	sf	15.00	41,100		
2321	SUBTOTAL					2,445.552	
2322							

E2020 MOVABLE FURNISHINGS

All movable furnishings to be provided and installed by owner

2325	SUBTOTAL	NIC
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TOTAL - FURNISHINGS

\$2,445.552

F10 SPECIAL CONSTRUCTION

F10 SPECIAL CONSTRUCTION

CONSTRUCT TEMPORARY PARKING TO OFF-SET CONSTRUCTION AREA

2334	Fence at temporary parking - basketball court	617	lf	38.00	NR	
2335	Fence at PH 1	6,340	lf	38.00	w/ EBP#2	
2336	Fence at PH 2	952	lf	38.00	36,176	
2337	Fence at PH 3	649	lf	38.00	24,662	
2338	Fence at PH 4	2,426	lf	38.00	92,188	
2339	Construction gates - phasing and parking	6	ea	2,000.00	12,000	
2340	Restripping basketball courts for parking	16,200	sf	0.50	w/ EBP#2	
2341	Restripping existing roads/parking for temp parking	40,855	sf	0.50	w/ EBP#2	
2342	Infill islands for temporary parking	5,153	sf	5.00	w/ EBP#2	
2343	Temporary parking/laydown; assumed for contractor use; gravel base only	25,000	sf	2.50	w/ EBP#2	
2344	Temporary parking/laydown; assumed for contractor use; gravel base only EBP#2 MAJORITY	75,000	sf	2.50	w/ EBP#2	
2345	Temporary front access road	5,000	sf	10.00	w/ EBP#2	
2346	Temporary egress path; sidewalk	8,100	sf	4.00	see below	
2347	PH2 Temporary access; exterior	1	ls	50,000.00	see below	
2348	PH3 Temporary covered walkway	1	ls	15,000.00	see below	
2349	SUBTOTAL Temporary Sitework				165,026	

2351	Salvage clock mechanism	1	ls	1,000.00	included	
2352	Salvage, repair and store Fusco stone entry façade	1	ls	200,000.00	included	
2353	Salvage, repair, store and reinstall Fusco wood panel	1	ls	15,000.00	included	
2354	Salvage Old Hall proscenium	1	ls	10,000.00	included	
2355	Salvage Old Hall plaster friezes	1	ls	4,000.00	included	
2356	Salvage, repair, store and reinstall River of Hands mosaic	1	ls	20,000.00	included	
2357	SUBTOTAL Salvage + Repair Work					-

2358						
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2359						
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EBP3

Phase 1 Downs Building

Demo

2363	Cut new opening in plaster and stud as required for new work	1	loc	1,500.00	EBP #3	
2364	Cut new opening in GWB wall as required for new work	1	loc	1,000.00	EBP #3	
2365	Remove plaster and stud partition complete	319	sf	6.00	EBP #3	
2366	Remove gwb and stud partition complete	297	sf	3.00	EBP #3	
2367	Remove existing folding wall, and door	275	sf	15.00	EBP #3	
2368	Remove lockers and cmu base- lockers	11	ea	50.00	EBP #3	
2369	Remove lockers and cmu base- cmu base sawcut and demo	11	lf	35.00	EBP #3	
2370	Remove double doors	2	lvs	150.00	EBP #3	
2371	Shower room demo	680	sf	15.00	EBP #3	
2372	Remove existing shower valve cabinet				EBP #3	
2373	Remove benches				EBP #3	
2374	Remove lockers				EBP #3	
2375	Remove flooring				EBP #3	

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
2376	Salvage lockers for reuse	96	ea	50.00	EBP #3		
2377	Individual toilet room demo	196	sf	15.00	EBP #3		
2378	Remove existing light fixtures				EBP #3		
2379	Remove existing mechanical units cabinets and fintube radiator				EBP #3		
2380	Remove MEPFP scope after disconnection by trades	3,856	gfa	3.00	EBP #3		
2381	Misc Demo	3,856	gfa	1.00	EBP #3		
2382	Demo trenching for new bathrooms	70	sf	25.00	EBP #3		
2383	Protection of adjacent/ existing	3,856	gfa	1.00	EBP #3		
2384							
2385	Fitout/ New Construction						
2386	<u>Floor finishes</u>						
2387	A2 ETR- protect existing floors	119	sf	1.10	EBP #3		
2388	A2 ETR- minor patching -20%	24	sf	12.00	EBP #3		
2389	A1 ETR- protect existing floors	168	sf	1.10	EBP #3		
2390	A1 ETR- minor patching -20% incl demo	168	sf	12.00	EBP #3		
2391	A1 base replacement 20% Incl demo	10	lf	4.00	EBP #3		
2392	C1 ETR- protect existing floors	650	sf	1.10	EBP #3		
2393	C1 ETR- minor patching -20% incl demo	130	sf	12.00	EBP #3		
2394	C1 base replacement 20%	109	lf	4.00	EBP #3		
2395	C2 ETR- protect existing floors	1,613	sf	1.10	EBP #3		
2396	C2 ETR- minor patching -20%	323	sf	12.00	EBP #3		
2397	C3- Floor prep	728	sf	4.00	EBP #3		
2398	C3 New RF	728	sf	10.00	EBP #3		
2399	C3 New RB	227	lf	3.00	EBP #3		
2400	D2 ETR- protect existing floors	158	sf	1.10	EBP #3		
2401	D2 ETR- minor patching -20% incl demo (tile)	32	sf	25.00	EBP #3		
2402	D2 base replacement 20%	16	lf	16.00	EBP #3		
2403	E2 ETR- protect existing floors	112	sf	1.10	EBP #3		
2404	E2 ETR- minor patching -20%	22	sf	12.00	EBP #3		
2405	A3 ETR- protect existing floors	61	sf	1.10	EBP #3		
2406	A3 ETR- minor patching -20%	12	sf	12.00	EBP #3		
2407	Rollup mat 9'-0" x 6'-0"	1	ea	750.00	EBP #3		
2408	<u>Ceiling Finishes</u>						
2409	ACT Ceilings 2 x 2	380	sf	8.00	EBP #3		
2410	Paint exposed	2,800	sf	1.00	EBP #3		
2411	<u>Wall Finishes</u>						
2412	Paint new walls	7,265	sf	1.75	EBP #3		
2413	Paint existing	4,000	sf	1.75	EBP #3		
2414	Paint HM Frames	18	ea	175.00	EBP #3		
2415	<u>Walls</u>						
2416	Wall type 01 A, 6" MS, 1 lyr GWB ea side, SAB	209	sf	14.50	EBP #3		
2417	Wall type 01 B, 3-5/8" MS, 1 lyr GWB ea side, SAB	3,102	sf	11.00	EBP #3		
2418	Wall type 02A, 6" MS, 1 lyr GWB one side, 2 lyr opp, SAB	66	sf	17.00	EBP #3		
2419	Wall type 08B furring, 3-5/8" studs	198	sf	10.00	EBP #3		
2420	Wall type 08D furring, 2-1/2" studs	77	sf	8.00	EBP #3		
2421	Furring wall detail 15	236	sf	12.00	EBP #3		
2422	GWB interface detail at existing glass detail 1	3	loc	700.00	EBP #3		
2423	<u>Misc</u>						
2424	In wall Blocking	1,173	lf	3.00	EBP #3		
2425	Sealants	391	lf	4.00	EBP #3		
2426	Patching existing walls	4,000	sf	3.00	EBP #3		
2427	Install existing salvaged office partition	1	ls	200.00	EBP #3		
2428	Install salvaged items	1	ls	600.00	EBP #3		
2429	<u>Doors</u>						
2430	Type A, WD, Frame and hardware	11	ea	1,255.00	EBP #3		
2431	Install	11	ea	325.00	EBP #3		
2432	Type B, WD, Frame and hardware	2	ea	1,300.00	EBP #3		
2433	Install	2	ea	325.00	EBP #3		
2434	Glazing	2	ea	125.00	EBP #3		
2435	Type C, WD, Frame and hardware	4	ea	1,255.00	EBP #3		
2436	Install	4	ea	325.00	EBP #3		
2437	Glazing	4	ea	200.00	EBP #3		
2438	Type G, WD, Frame and hardware	1	ea	1,255.00	EBP #3		
2439	Install	1	ea	325.00	EBP #3		
2440	Louver	1	ea	75.00	EBP #3		

90% Construction Document Estimate

GFA 408,590

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

2441	Blocking	306	lf	3.00	EBP #3		
2442	Sealants	306	lf	4.00	EBP #3		
2443	<u>Specialties/ Millwork/ Casework</u>						
2444	New accessories @ bathrooms	3	rms	900.00	EBP #3		
2445	Pass through mirror @ vestibule, track	1	ea	3,000.00	EBP #3		
2446	Counter @ pass through	4	lf	250.00	EBP #3		
2447	Plam casework - exam room base cabinets	6	lf	350.00	EBP #3		
2448	Plam casework - exam room wall cabinets	6	lf	250.00	EBP #3		
2449	Countertops	6	lf	150.00	EBP #3		
2450	Misc metals	1	ls	2,000.00	EBP #3		
2451							
2452	<u>Phase 1 Auditorium Building</u>						
2453	Demo						
2454	Gen Demo - Remove all wall mounted boards, furniture rags and AV Equipment	4,300	sf	3.00	EBP #3		
2455	Toilet room demo	320	sf	15.00	EBP #3		
2456	Remove all toilet accessories			in above			
2457	Remove all enclosure			in above			
2458	Remove plumbing fixtures after disconnection			in above			
2459	Remove flooring			in above			
2460	Remove office partition and doors	490	sf	3.00	EBP #3		
2461	Misc protect existing items to remain	1	ls	2,500.00	EBP #3		
2462	Remove existing light fixtures			with Trades			
2463	Remove existing mechanical units cabinets and fintube radiator			with Trades			
2464	Remove MEPFP scope after disconnection by trades	4,500	gfa	1.00	EBP #3		
2465	Fitout/ New Construction						
2466	<u>Flooring- B1, C1, A1</u>						
2467	ETR- protect existing floors	3,846	sf	1.10	EBP #3		
2468	ETR- minor patching -20%	769	sf	12.00	EBP #3		
2469	Rubber base- replace minor 20%	119	lf	3.00	EBP #3		
2470	Bathrooms minor patching infills	1	rm	2,000.00	EBP #3		
2471	Patch existing tile	316	sf	5.00	EBP #3		
2472	Walls						
2473	Interior wall infill detail 17	1	loc	600.00	EBP #3		
2474	Wall type 01 A, 6" MS, 1 lyr GWB ea side, SAB	110	sf	14.50	EBP #3		
2475	Misc						
2476	Blocking in walls	1	ls	500.00	EBP #3		
2477	Sealants	1	ls	500.00	EBP #3		
2478	Door install	1	lvs	325.00	EBP #3		
2479	Patching-9' high	5,373	sf	2.00	EBP #3		
2480	Patching-9' high bathroom	648	sf	3.00	EBP #3		
2481	<u>Specialties/ Millwork/ Casework</u>						
2482	New accessories @ bathrooms	1	rms	2,000.00	EBP #3		
2483	New Enclosures	4	ea	1,300.00	EBP #3		
2484	Misc metals	1	ls	2,000.00	EBP #3		
2485	Projection screen	2	ea	3,500.00	EBP #3		
2486							
2487	<u>HVAC: Early Bid Package #3 Phase 1</u>						
2488	ERV-1,2 Energy recovery unit	2	ea	5,500.00	EBP #3		
2489	AC-1,2,3 Window air conditioner	3	ea	900.00	EBP #3		
2490	FCU-1,2	2	ea	1,600.00	EBP #3		
2491	HP-1 Outdoor heat pump CU, 1.5 tons	1	ea	4,000.00	EBP #3		
2492	Fin tube radiation	7	ea	700.00	EBP #3		
2493	Electric wall heater	2	ea	950.00	EBP #3		
2494	Electric heating coil	1	ea	900.00	EBP #3		
2495	F-1 General exhaust fan	1	ea	750.00	EBP #3		
2496	F-2 Sidewall exhaust fan	1	ea	1,500.00	EBP #3		
2497	Galvanized ductwork with fittings & hangers	3,500	lbs	15.00	EBP #3		
2498	Duct insulation	900	sf	8.00	EBP #3		
2499	AC refrigerant piping with fittings & hangers	280	lf	26.00	EBP #3		
2500	Piping insulation	280	lf	9.00	EBP #3		
2501	Controls	1	ls	25,000.00	EBP #3		
2502	Testing & balancing	1	ls	15,000.00	EBP #3		
2503	Demolition	1	ls	10,000.00	EBP #3		
2504							
2505	<u>Fire Protection: Temporary Phasing Work</u>						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
2506	PH1 UG 6" water service piping (assume length)	300	lf	61.00	EBP #2		
2507	PH1 8" Main piping extend Fusco service	240	lf	97.00	EBP #2		
2508	PH1 4" Main piping re-feed riser in stair G3	220	lf	41.00	EBP #2		
2509	PH1 Relocate FDC	1	ls	8,000.00	EBP #2		
2510	PH1 Swing space subdivide classes for admin/nurse	1	ls	10,000.00	EBP #3		
2511							
2512	<u>Electrical; Temporary Phasing Work</u>						
2513	Temporary Phasing and relocation work per drawings	1	ls	200,000.00	EBP #3		
2514	SUBTOTAL PHASE 1 (EBP #3)						
2515							
2516	<u>Temp walls; PH1 (Not included in EBP#3)</u>						
2517	Level 3& 4 New Building Temp wall (Red)	5,808	sf				
2518	Temporary Exterior wall (Red) @new building	5,808	sf	28.00	162,624		
2519	Temporary exterior wall; maintenance	5,808	sf	1.50	8,712		
2520	Temporary exterior wall; demolition	5,808	sf	2.00	11,616		
2521	Disconnect exist sign	1	ls	2,500.00	2,500		
2522	Provide temporary pathway to mass avenue	4,300	sf		with site (check)		
2523							
2524	<u>Phase 2</u>						
2525	<u>Level 1</u>						
2526	Pit - use at Temp PE	3,227	sf	20.00	64,540		
2527	<u>Temp walls</u>						
2528	Temporary Exterior wall (Orange) @ existing opening	366	sf		-		
2529	CMU, 8"	66	sf	36.00	2,376		
2530	Temporary exterior wall; 16 Ga studs; sheathing; MB; 4" mineral wool insulation	300	sf	28.00	8,400		
2531	Temporary exterior wall; maintenance	366	sf	1.50	549		
2532	Temporary exterior wall; demolition	366	sf	2.00	732		
2533	Demolition				with Demo		
2534	<u>Level 2</u>						
2535	Temp drama classroom	1,551	gfa	25.00	38,775		
2536	Temp server , café room; reuse existing equipment; minor work	7,111	gfa	10.00	71,110		
2537	Maintain Elevator in use				with GR'S		
2538	Wall lift for ADA Ramp	1	ea	100,000.00	100,000		
2539	<u>Temp walls</u>						
2540	Temporary Exterior wall (Orange) @ existing opening	450	sf	28.00	12,600		
2541	Temporary exterior wall; maintenance	450	sf	1.50	675		
2542	Temporary exterior wall; demolition	450	sf	2.00	900		
2543	Infill allowance	450	sf	10.00	4,500		
2544	<u>Temp Roof</u>						
2545	Temp Roof	500	sf	30.00	15,000		
2546	<u>Level 3</u>						
2547	Temp Library etc.	4,800	gfa	20.00	96,000		
2548	Temp Offices	750	gfa	10.00	7,500		
2549	Temp classrooms	1,452	gfa	15.00	21,780		
2550	LABBB spaces, minor	1,200	gfa	20.00	24,000		
2551	LABBB spaces, rework	2,400	gfa	50.00	120,000		
2552	Interior ramp & stairs; Portable ramp; includes demo	1	ls	48,437.60	48,438		
2553	Level 3 New Building Temp wall (Red) Extension (117' long to 224' long) . 117' in EBP	1,664	sf				
2554	Temporary Exterior wall (Red) @new building	1,664	sf	28.00	46,592		
2555	Temporary exterior wall; maintenance	1,664	sf	1.50	2,496		
2556	Temporary exterior wall; demolition	1,664	sf	2.00	3,328		
2557	Infills @ existing						
2558	Infills/ temporary exterior wall; 16 Ga studs; sheathing; MB; 4" mineral wool insulation	525	sf	28.00	14,700		
2559	Temporary exterior wall; maintenance	525	sf	1.50	788		
2560	Temporary exterior wall; demolition	525	sf	2.00	1,050		
2561	Infill allowance	525	sf	10.00	5,250		
2562	<u>Bridge</u>						
2563	Exterior bridge- complete; assume prefabricated structure; installation and removal	1	ls	275,000.00	275,000		
2564	Ramp, with railings	1	ls	70,000.00	70,000		
2565	Covered Bridge sprinklers/piping	1	ls	4,500.00	4,500		
2566	Lighting	1	ls	10,000.00	10,000		
2567	<u>Level 4</u>						

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

2568	Temp walls						
2569	Temporary Exterior wall (Orange) @ existing opening	350	sf	28.00	9,800		
2570	Temporary exterior wall; maintenance	350	sf	1.50	525		
2571	Temporary exterior wall; demolition	350	sf	2.00	700		
2572	Infill allowance	350	sf	10.00	3,500		
2573	Level 4 New Building Temp wall (Red) Extension (186' long to 236' long)	800	sf				
2574	Temporary Exterior wall (Red) @new building	800	sf	28.00	22,400		
2575	Temporary exterior wall; maintenance	800	sf	1.50	1,200		
2576	Temporary exterior wall; demolition	800	sf	2.00	1,600		
2577	Open to below- no scope anticipated				n/a		
2578							
2579	Stair Wall (See A1.2.4)- Temporary wall around entire stair well -see A1.2.4	1,220	sf				
2580	Temporary Exterior wall (Red) @new building	1,220	sf	28.00	34,160		
2581	Temporary exterior wall; maintenance	1,220	sf	1.50	1,830		
2582	Temporary exterior wall; demolition	1,220	sf	2.00	2,440		
2583	Temporary pedestrian protection & access, P2 & 3	1	ls	220,000.00	220,000		
2584	Fusco cooling	1	ls	106,000.00	106,000		
2585							
2586	Temporary Phasing Work: Plumbing						
2587	Phase 2: temp server/café/warming; new pot sink and hand sinks	1	ls	18,000.00	18,000		
2588	Phase 2: temp library and offices misc plumbing mods	1	ls	40,000.00	40,000		
2589	Phase 2: Fusco demo plumbing fixtures/piping	9	ea	600.00	5,400		
2590	Phase 2: Fusco new plumbing piping and connections	1	ls	8,000.00	8,000		
2591	Phase 2: Blue Gym new plumbing fixtures	3	ea	1,250.00	3,750		
2592	Phase 2: Blue Gym new plumbing piping and connections	1	ls	9,000.00	9,000		
2593	Phase 2: temp drama classroom misc plumbing mods	1	ls	5,000.00	5,000		
2594							
2595	HVAC: Temporary Phasing Work						
2596	Phase 2: temp server/café/warming hvac mods	1	ls	20,000.00	20,000		
2597	Phase 2: temp library and offices misc hvac mods	1	ls	15,000.00	15,000		
2598	Phase 2: temp (5) classrooms misc hvac mods	1	ls	20,000.00	20,000		
2599	Phase 2: temp drama classroom misc hvac mods	1	ls	4,000.00	4,000		
2600	Phase 2: 200 HP Rental steam boiler/fuel (18 months)	1	ls	288,000.00	288,000		
2601	Phase 2: Rental steam boiler steam/cond/water piping	1	ls	5,000.00	5,000		
2602	PH2: ERV-1 200 CFM with enthalpy wheel and fans	1	ea	5,500.00	5,500		
2603	PH2: Dx heat pump split system 1 ton	1	ea	6,500.00	6,500		
2604	PH2: Dx HP Refrigerant Piping	1	ls	1,000.00	1,000		
2605	PH2: Air conditioning unit, window mounted	2	ea	1,400.00	2,800		
2606	PH2: Unit heater, electric	9	ea	1,050.00	9,450		
2607	PH2: Duct mounted heating coil, electric	1	ea	950.00	950		
2608	PH2: Ductwork for ERV	620	lbs	15.00	9,300		
2609	PH2: Misc accessories & grilles for ERV	1	ls	800.00	800		
2610	PH2: AHU preventive maintenance (belts, clean coil) & TAB	4	ea	3,000.00	12,000		
2611	PH2: Demolition	1	ls	10,000.00	10,000		
2612							
2613	Fire Protection: Temporary Phasing Work						
2614	PH2 Swing space Fusco subdivide drama classes	1	ls	5,000.00	5,000		
2615	PH2 Swing space Fusco subdivide drama/connect to PH1 bldg	1	ls	5,000.00	5,000		
2616	PH2 Swing space temp Kitchen/Cafeteria mods	1	ls	15,000.00	15,000		
2617	PH2 Swing space temp Library modifications	1	ls	15,000.00	15,000		
2618	PH2 Swing space temp Classroom modifications	1	ls	10,000.00	10,000		
2619							
2620	Electrical: Temporary Phasing Work						
2621	Temporary Phasing and relocation work per drawings	1	ls	100,000.00	100,000		
2622							
2623	Phase 3						
2624	1st Floor						
2625	Temp PE Offices	1,762	gfa	10.00	with EBP		
2626	Temp Admin (Blue Area balance is in EBP). Scope here is one room	193	gfa	10.00	1,930		
2627	Temp walls						
2628	Temporary Exterior wall (Orange) @ existing opening	75	sf	28.00	2,100		
2629	Temporary exterior wall; maintenance	75	sf	1.50	113		
2630	Temporary exterior wall; demolition	75	sf	2.00	150		
2631	Infill allowance	75	sf	10.00	750		
2632	Exterior Door	1	ea	4,000.00	4,000		
2633	Temporary Exterior wall (Red) @new building 12' high	2,460	sf	28.00	68,880		
2634	Temporary exterior wall; maintenance	2,460	sf	1.50	3,690		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
NEW CONSTRUCTION							
2635	Temporary exterior wall; demolition	2,460	sf	2.00	4,920		
2636	2nd floor						
2637	Temp Classrooms	1,811	gfa	25.00	45,275		
2638	<u>Temp walls</u>						
2639	Temporary Exterior wall (Orange) @ existing opening some scope in Phase 2	75	sf	28.00	2,100		
2640	Temporary exterior wall; maintenance	75	sf	1.50	113		
2641	Temporary exterior wall; demolition	75	sf	2.00	150		
2642	Infill allowance	75	sf	10.00	750		
2643	Temporary Exterior wall (Red) @new building 12 ' high	2,232	sf	28.00	62,496		
2644	Temporary exterior wall; maintenance	2,232	sf	1.50	3,348		
2645	Temporary exterior wall; demolition	2,232	sf	2.00	4,464		
2646	3rd floor						
2647	<u>Temp walls</u>						
2648	Temporary Exterior wall (Orange) @ existing opening some scope in Phase 2	100	sf	28.00	2,800		
2649	Temporary exterior wall; maintenance	100	sf	1.50	150		
2650	Temporary exterior wall; demolition	100	sf	2.00	200		
2651	Infill allowance	100	sf	10.00	1,000		
2652	Temporary Exterior wall (Red) @new building 16 ' high (some scope in phase 2)	4,144	sf	28.00	116,032		
2653	Temporary exterior wall; maintenance	4,144	sf	1.50	6,216		
2654	Temporary exterior wall; demolition	4,144	sf	2.00	8,288		
2655	4th floor						
2656	<u>Temp walls</u>						
2657	Temporary Exterior wall (Red) @new building 16 ' high- Height unknown	4,256	sf	28.00	119,168		
2658	Temporary exterior wall; maintenance	4,256	sf	1.50	6,384		
2659	Temporary exterior wall; demolition	4,256	sf	2.00	8,512		
2660							
2661	<u>Locker Rooms</u>						
2662	<u>Athletic locker Rooms</u>						
2663	Demolish existing PE Locker Rooms	1	ls	3,000.00	3,000		
2664	New partitions	300	sf	15.00	4,500		
2665	New door, frame and hardware	2	ea	1,600.00	3,200		
2666	Patch floor to match existing	1	ls	200.00	200		
2667	Install salvaged lockers	84	ea	50.00	4,200		
2668	<u>PE locker Rooms</u>						
2669	Demolition at existing athletic locker rooms	1,330	sf	15.00	19,950		
2670	Salvage lockers	84	ea	50.00	4,200		
2671	New partitions	300	sf	15.00	4,500		
2672	Patch @ floor drains	1	ls	1,000.00	1,000		
2673	New tile flooring	1,330	sf	25.00	33,250		
2674	Allow for installing lockers (5 tier) and relocating to new building; 1,315 openings	263	ea	150.00	39,450		
2675							
2676	<u>Temporary Phasing Work; Plumbing</u>						
2677	Phase 3: temp (2) drama classroom misc plumbing mods	1	ls	10,000.00	10,000		
2678	Phase 3: Downs PE Locker demo valve/drains/piping	1	ls	4,000.00	4,000		
2679							
2680	<u>HVAC; Temporary Phasing Work</u>						
2681	Phase 3: temp (2) drama classroom misc hvac mods	1	ls	8,000.00	8,000		
2682	Phase 3: temp PE offices misc hvac mods	1	ls	10,000.00	10,000		
2683	Phase 3: Stage/platform unit heater, electric	3	ea	1,050.00	3,150		
2684	Phase 3: Locker room AHU preventive maintenance (belts, clean coil) & TAB	2	ea	3,000.00	6,000		
2685							
2686	<u>Fire Protection; Temporary Phasing Work</u>						
2687	PH3 Swing space temp walkway modify as req'd	1	ls	5,000.00	5,000		
2688	PH3 Swing space temp Locker Room modifications	1	ls	5,000.00	5,000		
2689	PH3 Swing space subdivide classes for office/conf rooms	1	ls	10,000.00	10,000		
2690	PH1 Demolition- Columb House/Auditorium service	1	ls	3,000.00	3,000		
2691	PH2 Demolition- Columb House/Auditorium	1	ls	40,000.00	40,000		
2692	PH3 Demolition- Fusco/Blue Gym	1	ls	10,000.00	10,000		
2693	PH4 Demolition Downs/Red Gym	1	ls	25,000.00	25,000		
2694	<u>Electrical; Temporary Phasing Work</u>						
2695	Temporary Phasing and relocation work per drawings	1	ls	50,000.00	50,000		
2696	SUBTOTAL PHASE 2 & 3					3,091,215	
2697							

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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NEW CONSTRUCTION

2698	TOTAL - SPECIAL CONSTRUCTION	\$3,256,241
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2699		
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2700		
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2701	F20 SELECTIVE BUILDING DEMOLITION	
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2702		
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2703	F2010 BUILDING ELEMENTS DEMOLITION	
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2704	See main summary for demolition of existing buildings	
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2705	SUBTOTAL	\$0
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2706		
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2707	F2020 HAZARDOUS COMPONENTS ABATEMENT	
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2708 02121	See main summary for HazMat allowance	See Summary
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2709	SUBTOTAL	\$0
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2710	TOTAL - SELECTIVE BUILDING DEMOLITION	\$0
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2711		
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90% Construction Document Estimate

GFA

800

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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Stadium Toilet Facility Outbuilding

A2020 BASEMENT WALLS

No Work in this section

SUBTOTAL

-

TOTAL - BASEMENT CONSTRUCTION

B10 SUPERSTRUCTURE

B1020 ROOF CONSTRUCTION

Wood framed construction

800 sf 18.00 14,400

SUBTOTAL

14,400

TOTAL - SUPERSTRUCTURE

\$14,400

B20 EXTERIOR CLOSURE

B2010 EXTERIOR WALLS

Exterior Wall Area; Solid

1,920 sf

042000 MASONRY

CMU backup, 8"

1,920 sf 22.00 42,240

Glazed CMU, 4"

1,920 sf 25.00 48,000

Premium for anti-graffiti coating at CMU

1,920 sf 6.00 11,520

Scaffolding

1,920 sf 4.00 included

055000 MISC. METALS

Miscellaneous metals to exterior masonry; lintels, angles etc.

1,920 sf 1.50 2,880

070001 WATERPROOFING, DAMPPROOFING AND CAULKING

Air barrier

1,920 sf 7.00 13,440

Miscellaneous sealants to closure

1,920 sf 1.00 1,920

072100 THERMAL INSULATION

3" insulation

1,920 sf 3.00 5,760

101400 SIGNAGE

Stainless steel sign letters on standoffs

4' high

9 ea 750.00 6,750

3' high

10 ea 500.00 5,000

SUBTOTAL

137,510

B2020 WINDOWS

No work required

SUBTOTAL

-

B2030 EXTERIOR DOORS

079200 JOINT SEALANTS

Backer rod & double sealant

28 lf 9.00 252

083513 OVERHEAD DOORS

Overhead door

80 sf 65.00 5,200

SUBTOTAL

5,452

90% Construction Document Estimate

GFA

800

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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Stadium Toilet Facility Outbuilding

TOTAL - EXTERIOR CLOSURE	\$142,962
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 115
 116
 117
B30 ROOFING

 118
 119
B3010 ROOF COVERINGS

 120
 121
 061000 ROUGH CARPENTRY

 122
 123
 Wood blocking at roof edge

120 lf 20.00 2,400

 124
 125
 070001 WATERPROOFING, DAMPPROOFING AND CAULKING

 126
 127
 AVB at roof perimeter

120 lf 8.00 960

 128
 070002 ROOFING AND FLASHING

 129
 PVC roofing

800 sf 9.00 7,200

 130
 Cover board

800 sf 2.00 NR

 131
 Insulation; including tapered at select areas

800 sf 3.00 2,400

 132
 Substrate board

800 sf 1.50 NR

 133
 Reinforced vapor barrier

800 sf 1.00 NR

 134
Miscellaneous Roofing

 135
 Roof edge

120 lf 30.00 3,600

 136
 SUBTOTAL

16,560

TOTAL - ROOFING	\$16,560
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 139
 140
 141
C10 INTERIOR CONSTRUCTION

 142
 143
C1010 PARTITIONS

 144
 042000 MASONRY

 145
 4" CMU

42 sf 22.00 924

 146
 6" CMU

770 sf 22.00 16,940

 147
 8" CMU

1,190 sf 24.00 28,560

 151
 SUBTOTAL

46,424

 152
C1020 INTERIOR DOORS

 153
 061000 ROUGH CARPENTRY

 154
 Wood blocking at openings

80 lf 4.00 320

 155
 070001 WATERPROOFING, DAMPPROOFING AND CAULKING

 156
 Backer rod & double sealant

80 lf 2.50 200

 157
 081110 HOLLOW METAL DOOR FRAMES

 158
 Door, frame and hardware

 159
 Single

4 ea 1,800.00 7,200

 160
 090007 PAINTING

 161
 Finish doors and frames

4 ea 200.00 800

 162
 SUBTOTAL

8,520

 163
C1030 SPECIALTIES / MILLWORK

 164
 102110 TOILET COMPARTMENTS

 165
 ADA

2 ea 1,800.00 3,600

90% Construction Document Estimate

GFA

800

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Stadium Toilet Facility Outbuilding							
173	Standard	4	ea	1,600.00	6,400		
174	Urinal screen	1	ea	650.00	650		
175							
176	102800 TOILET ACCESSORIES						
177	Gang bathroom	2	rms	2,350.00	4,700		
178	Single bathroom	1	rms	800.00	800		
179	Janitors closet accessories	1	rms	300.00	300		
180	Electric hand dryers	3	ea	750.00	2,250		
181	Sanitary napkin disposal	4	ea	85.00	340		
182	Fire extinguisher cabinets	2	ea	350.00	700		
183	SUBTOTAL						19,740
184							
185	TOTAL - INTERIOR CONSTRUCTION						\$74,684
186							
187							
188	C30 INTERIOR FINISHES						
189							
190							
191	C3010 WALL FINISHES						
192							
193	090007 PAINTING						
194	Paint to CMU	5,112	sf	1.25	6,390		
195	SUBTOTAL						6,390
196							
197	C3020 FLOOR FINISHES						
198							
199	033000 CONCRETE						
200	Sealed concrete; EXP-C	565	sf	2.00	1,130		
201	SUBTOTAL						1,130
202							
203	C3030 CEILING FINISHES						
204							
205	090007 PAINTING						
206	Paint to GWB ceilings	565	sf	1.00	565		
207							
208	092900 GYPSUM BOARD ASSEMBLIES						
209	GWB ceiling	565	sf	15.00	8,475		
210	SUBTOTAL						9,040
211							
212	TOTAL - INTERIOR FINISHES						\$16,560
213							
214							
215	D20 PLUMBING						
216							
217	D20 PLUMBING, GENERALLY						
218	<u>Equipment</u>						
219	Electric water heater	1	ea	3,500.00	3,500		
220	Hot water circulator pump assembly	1	ea	800.00	800		
221	Water mixing valve station	1	ea	1,700.00	1,700		
222	Water meter assembly	1	ea	1,100.00	1,100		
223	3" Reduce pressure backflow preventer	1	ea	2,900.00	2,900		
224	Floor drain	4	ea	675.00	2,700		
225	Hose bibb	2	ea	225.00	450		
226	Freezeproof wall hydrant	1	ea	325.00	325		
227	<u>Plumbing Fixtures</u>						
228	Water closet	4	ea	1,525.00	6,100		
229	Water closet ADA	3	ea	1,550.00	4,650		
230	Urinal	1	ea	1,575.00	1,575		

90% Construction Document Estimate

GFA

800

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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Stadium Toilet Facility Outbuilding

231	Urinal ADA	1	ea	1,600.00	1,600		
232	Lavatory ADA wall hung	5	ea	1,400.00	7,000		
233	Mop sink	1	ea	1,150.00	1,150		
234	Drinking fountain, single level	2	ea	2,550.00	5,100		
235	<u>Domestic Water Piping</u>						
236	Copper pipe type L with fittings & hangers	335	lf	45.00	15,075		
237	Valves & accessories	1	ls	2,261.25	2,261		
238	<u>Pipe insulation</u>						
239	Pipe insulation	335	lf	10.00	3,350		
240	<u>Sanitary W&V UG, SV Cast Iron Pipe (hung from slab)</u>						
241	SV Cast iron pipe with fittings	180	lf	45.00	8,100		
242	<u>Sanitary W&V AG, Hubless Cast Iron Pipe</u>						
243	Cast iron pipe with fittings & hangers	260	lf	45.00	11,700		
244	<u>UG Domestic Water Piping from Main Bldg</u>						
245	Ductile iron pipe with fittings	250	lf	44.00	11,000		
246	<u>UG Sanitary from Main Building</u>						
247	SV Cast iron pipe with fittings	250	lf	31.00	7,750		
248	SUBTOTAL					99,886	

TOTAL - PLUMBING
\$99,886
D30 HVAC
D30 HVAC, GENERALLY
HVAC Equipment

257	Electric wall unit heater, 3 KW	5	ea	900.00	4,500	
258	<u>Air distribution</u>					
259	Exhaust fan 800 CFM	2	ea	2,000.00	4,000	
260	<u>Sheet metal & Accessories</u>					
261	Sheet metal & accessories, louvers, GRD's	1	ls	9,500.00	9,500	
262	<u>Automatic Temperature Controls</u>					
263	Temperature sensor	7	ea	2,000.00	14,000	
264	<u>Balancing</u>					
265	System testing & balancing	1	ls	1,500.00	1,500	
266	SUBTOTAL					33,500

TOTAL - HVAC
\$33,500
D40 FIRE PROTECTION
D40 FIRE PROTECTION, GENERALLY

No work in this section

SUBTOTAL

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TOTAL - FIRE PROTECTION
D50 ELECTRICAL
SERVICE & DISTRIBUTION
Gear & Distribution
Normal Power

285	75KVA transformer	1	ea	9,900.00	9,900	
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90% Construction Document Estimate

GFA

800

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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Stadium Toilet Facility Outbuilding

286	225A 120/208V panelboard	1	ea	2,200.00	2,200		
287	225A feed	20	lf	43.60	872		
288	<u>Equipment Wiring</u>						
289	EF 20A feed and connection	2	ea	940.00	1,880		
290	EUH 20A feed, connection & 30 NFSS	5	ea	880.00	4,400		
291	EWH 60A feed, connection & 60A NFSS	1	ea	1,085.00	1,085		
292	Hand dryer feed and connection	3	ea	450.00	1,350		
293	SUBTOTAL						21,687
294							

Lighting & Branch Power
Lighting

297	SCo4	11	ea	179.00	1,969		
298	EBU	4	ea	344.00	1,376		
299	EXIT, allow	1	ea	344.00	344		
300	<u>Lighting control</u>						
301	Occupancy sensor	5	ea	180.00	900		
302	Single pole switch LV	3	ea	28.50	86		
303	<u>Branch devices</u>						
304	GFI receptacle	11	ea	36.00	396		
305	Connection to EWC	1	ea	85.00	85		
306	Connection to fire alarm panel	2	ea	100.00	200		
307	<u>Lighting and branch circuitry</u>						
308	Device plate WP	7	ea	20.00	140		
309	Device plate	7	ea	5.00	35		
310	Device box	37	ea	29.40	1,088		
311	Circuitry	900	lf	9.00	8,100		
312	SUBTOTAL						14,719
313							

D5030 COMMUNICATION & SECURITY SYSTEMS
Telecommunications

316	MDF/IDF fit out closets, devices and cabling	1	ls	2,000.00	2,000		
317	Devices and cabling, not shown at this scope level	1,630	sf	1.00	1,630		

Fire Alarm

319	Fire alarm terminal cabinet	1	ls	5,000.00	5,000		
320	Knox box, allow	1	ea	600.00	600		
321	Radio Master box						NIC
322	BP	1	ea	500.00	500		
323	Beacon	2	ea	281.00	562		
324	Manual pull station	1	ea	107.00	107		
325	Manual pull station WP	1	ea	117.00	117		
326	Smoke detector	1	ea	148.00	148		
327	Heat detector	4	ea	148.00	592		
328	Audio visual device	2	ea	151.00	302		
329	Visual device	1	ea	130.00	130		
330	Remote alarm indicator WP	1	ea	213.00	213		
331	Control/monitor module	2	ea	235.00	470		
332	Device box	17	ea	29.40	500		
333	Circuitry	400	lf	9.00	3,600		
334	Programming and testing	1	ls	1,300.00	1,300		
335	<u>Security System</u>						-
336	Security System, allow	1	ls	10,000.00	10,000		
337	SUBTOTAL						27,771
338							

D5040 OTHER ELECTRICAL SYSTEMS

90% Construction Document Estimate

GFA

800

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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Stadium Toilet Facility Outbuilding

340	<u>Miscellaneous</u>						
341	Grounding & bonding	1	ls	3,500.00	3,500		
342	Temp power and lights	1	ls	1,000.00	1,000		
343	Coordination, BIM	1	ls	4,000.00	4,000		
344	Permits and fees	1	ls	3,200.00	Waived		
345	SUBTOTAL					8,500	
346							

G40 ELECTRICAL UTILITIES

Civil

Concrete:

350	Secondary DB	400	lf	25.00	10,000	
351	LV DB	400	lf	28.00	11,200	
352	Excavation and backfill:					
353	Secondary DB	400	lf	30.00	12,000	
354	LV DB	400	lf	25.00	10,000	
355	SUBTOTAL				43,200	
356						

Power

250A feed secondary ductbank from School Building, allow length per E9.0 note 3

Communication

1-4" PVC conduit

400 lf 9.00 3,600

SUBTOTAL

27,200

TOTAL - ELECTRICAL

\$143,077

E10 EQUIPMENT

E10 EQUIPMENT, GENERALLY

No work in this section

SUBTOTAL

-

TOTAL - EQUIPMENT

\$689,354

\$861.69

SUBTOTAL TOILET BUILDING

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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SITEWORK

 1 **G SITEWORK**

 2 **G10 SITE PREPARATION & DEMOLITION**

Mobilization	1	ls	205,000.00	205,000
Mobilization	1	ls	70,000.00	w/ EBP#2
Site GR's - police details survey	1	ls	225,000.00	225,000
Site GR's	1	ls	75,000.00	w/ EBP#2
Site construction fence gates	2	loc	15,000.00	w/ EBP#2
Stabilized construction entrance/ set-down area including maintenance during construction	2,100	sf	6.00	w/ EBP#2
Street sweeping	1	ls	90,000.00	90,000
Street sweeping - per leveling sheet	1	ls	90,000.00	w/ EBP#2
Temporary signage	1	ls	40,000.00	40,000
SUBTOTAL				560,000
Demolish existing paving - add in schouler	124,144	sf	1.25	155,180
Demolish existing paving	56,105	sf	1.25	w/ EBP#2
Demolish existing courtyards	31,400	sf	1.50	47,100
Demolish existing concrete pavers	2,895	sf	1.50	w/ EBP#2
Demolish existing playground	2,382	sf	1.50	w/ EBP#2
Demolish existing shot put landing area	3,268	sf	1.50	4,902
Demolish existing fencing	1,660	lf	5.00	8,300
Demolish existing fencing	220	lf	5.00	w/ EBP#2
Demolish existing backstops	130	lf	12.00	1,560
Demolish existing walls	610	lf	95.00	57,950
Demolish existing walls	290	lf	95.00	w/ EBP#2
Demolish existing trees	6	ea	400.00	2,400
Demolish existing trees	77	ea	400.00	w/ EBP#2
Clear existing vegetation/invasive species	1	acre	5,000.00	5,000
Demolish existing guardrails	343	lf	150.00	51,450
Demolish existing guardrails	45	lf	150.00	w/ EBP#2
Demolish existing signs	10	ea	150.00	w/ EBP#2
Demolish existing playground fence	143	lf	15.00	w/ EBP#2
Remove and stockpile existing storage at baseball	3	ea	500.00	1,500
Remove and stockpile existing softball benches	4	ea	500.00	2,000
Remove and stockpile existing shed at fields	1	ea	1,200.00	1,200
Remove and stockpile existing planter boxes	3	ea	350.00	1,050
Demolish existing bleacher - visitor	3,600	sf	2.00	7,200
Demolish existing bleacher foundations - visitor	16	ea	1,000.00	16,000
Demolish existing bleacher steel beams - visitor	2	ea	1,500.00	3,000
Demolish existing monitoring well	1	ls	5,000.00	w/ EBP#2
Demolish existing hydrant	2	ea	1,000.00	w/ EBP#2
Remove and stockpile existing hydrants	1	ea	1,000.00	1,000
Cut/cap water lines	3	ea	10,000.00	w/ EBP#2
Cut/cap gas lines	3	ea	10,000.00	w/ EBP#2
Demolish existing water gate	1	loc	500.00	w/ EBP#2
Demolish existing water lines	232	lf	20.00	4,640
Demolish existing water lines	1,360	lf	15.00	w/ EBP#2
Demolish existing drainage lines	2,131	lf	20.00	42,620
Demolish existing drainage lines	900	lf	15.00	w/ EBP#2
Demolish existing drainage utility structures	25	ea	250.00	6,250
Demolish existing drainage utility structures	13	ea	250.00	w/ EBP#2
Demolish existing utility pads	3	ea	250.00	w/ EBP#2
Demolish existing sewer lines	350	lf	15.00	w/ EBP#2
Demolish existing gas lines	351	lf	10.00	w/ EBP#2
Demolish existing duct bank	165	lf	10.00	w/ EBP#2
SUBTOTAL				420,302

 60 **Site Earthwork**

Preconstruction survey				NIC
Remove and dispose lawn	233,000	sf	0.10	23,300
Remove and dispose lawn	170,000	sf	0.10	w/ EBP#2
Strip & Stockpile topsoil- phase 1 for reuse	3,300	cy	12.00	w/ EBP#2
Strip & Stockpile topsoil - softball field area already complete	3,180	cy	12.00	w/ EBP#2
Strip topsoil for export - phase 2-4	4,970	cy	6.00	29,820
Load topsoil for export - phase 2-4	4,970	cy	2.50	12,425
Disposal of topsoil to match less then RCS-1	7,952	tn	20.00	159,040

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK							
69	Load topsoil for export (softball topsoil) - allowance per geotech	3,180	cy	2.50	7,950		
70	Disposal of topsoil to match less then RCS-1	5,088	tn	20.00	101,760		
<u>Phase One</u>							
72	Cut	613	cy	10.00	w/ EBP#2		
73	Store on site for reuse	613	cy	14.00	w/ EBP#2		
74	Fill- reuse existing	613	cy	16.00	w/ EBP#2		
75	Fill- common fill import (swell 25%)	4,484	cy	35.00	w/ EBP#2		
<u>Phase Two</u>							
77	Cut	2,600	cy	12.00	31,200		
78	Store on site for reuse	2,600	cy	14.00	36,400		
79	Fill- reuse existing	2,600	cy	16.00	41,600		
80	Fill- common fill import (swell 25%)	15,875	cy	35.00	555,625		
<u>Phase Three</u>							
82	Cut	700	cy	12.00	8,400		
83	Store on site for reuse	700	cy	14.00	9,800		
84	Fill- reuse existing	700	cy	16.00	11,200		
85	Fill- common fill import (swell 25%)	6,125	cy	35.00	214,375		
<u>Phase Four</u>							
87	Cut	900	cy	12.00	10,800		
88	Store on site for reuse	900	cy	14.00	12,600		
89	Fill- reuse existing	900	cy	16.00	14,400		
90	Fill- common fill import (swell 25%)	21,375	cy	35.00	748,125		
91	Import fill to replace exported contaminated soil (swell 25%)	5,813	cy	35.00	203,455		
92	Support for SOE - equipment and crew	45	dy	2,500.00	w/ EBP#2		
93							
94	Fine grading	59,250	sy	1.50	88,875		
95	SUBTOTAL						2,321,150
96							
<u>Erosion Control</u>							
98	Silt fence	10,950	lf	10.00	109,500		
99	Silt fence- EBP#2	1,200	lf	10.00	w/ EBP#2		
100	Silt fence maintenance and monitoring - clean settling basins C1.04	1	ls	50,000.00	50,000		
101	Tree protection	700	lf	6.00	4,200		
102	Tree protection- EBP#2	1,054	lf	6.00	w/ EBP#2		
103	Inlet protection	26	ea	250.00	6,500		
104	Inlet protection- EBP#2	9	ea	250.00	w/ EBP#2		
105							
106	Slope protection - 13,000sf	1	ls	65,000.00	65,000		
107	Slope protection- EBP#2	1	ls	25,000.00	w/ EBP#2		
108	Repair to neighboring properties	1	ls	25,000.00	w/ EBP#2		
109							
110	<u>Support of Geothermal Wells</u>						
111	Support of geothermal wells operations	1	ls	400,000.00	NIC		
112	Settlement tank	1	ls	492,000.00	NIC		
113	Water treatment	330	ea	3,000.00	NIC		
114	SUBTOTAL						235,200
115							
<u>Hazardous Waste Remediation</u>							
117	Contaminated soils associated with transformer				See Building		
118	Contaminated soils associated with utilities and sitework				See Building		
119	Clean corridor for utilities; allowance from DD	1	ls	100,000.00	100,000		
120	Treatment of water	1	ls	100,000.00	100,000		
121	Allowance to rework existing engineered barrier	1	ls	200,000.00	200,000		
122	Allowance for small repairs to engineered barrier	5	loc	20,000.00	100,000		
123	Remove transformer vault tank	1	ea	50,000.00	50,000		
124	Remove UST 1 (#2 stays in place)	1	ea	15,000.00	15,000		
125	SUBTOTAL						565,000
126							
G20 SITE IMPROVEMENTS							
<u>Roadways</u>							
129	<u>Asphalt Paving; parking lot and roadway</u>	80,598	sf				
130	gravel base; 12" thick (swell 25%)	3,731	cy	40.00	149,240		
131	asphalt top; 1.5" thick (Phase 1 work)	3,889	sy	18.00	70,002		
132	asphalt top; 1.5" thick	8,955	sy	18.00	161,190		
133	asphalt binder; 2.5" thick	8,955	sy	13.00	116,415		
134	asphalt binder; 2.5" thick - EBP#2 leveling sheet	3,889	sy	13.00	w/ EBP#2		
135	gravel base; 12" thick - EBP#2 leveling sheet	11,667	cy	40.00	w/ EBP#2		
136	Granite curbs	5,800	lf	46.00	266,800		
137	Granite curbs - west side of schooler street (allowance)	120	lf	46.00	5,520		
138	Granite curbs - landscape	120	lf	65.00	7,800		

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK							
139	Granite curbs repair along mass ave. for utility work	223	lf	46.00	10,258		
140	Crosswalk hatching	5	ea	1,200.00	6,000		
141	Other road markings	1	ls	5,000.00	5,000		
142	Parking ADA spaces	8	space	85.00	680		
143	Parking spaces	204	space	40.00	8,160		
144	Parallel parking spaces	24	space	40.00	960		
145	ADA panels	335	sf	18.00	6,030		
146	HC curb cuts	6	loc	1,500.00	9,000		
147	SUBTOTAL						823,055
148							
149	Pedestrian Paving						
150	<u>Concrete paving</u>	38,370	sf				
151	gravel base; 8" thick	1,146	cy	40.00	45,840		
152	4" concrete paving	38,370	sf	12.00	460,440		
153	Premium for ramps	700	sf	20.00	14,000		
154	6" concrete pads	1,030	sf	14.00	14,420		
155	6" vehicular concrete paving	5,161	sf	14.00	72,254		
156	6" vehicular concrete paving- loading dock	2,636	sf	14.00	36,904		
157	<u>Asphalt paving</u>	12,291	sf				
158	gravel base; 8" thick	305	cy	40.00	12,200		
159	asphalt; 3.6" thick	1,366	sy	35.00	47,810		
160	<u>Asphalt paving - Vehicular Depth</u>	12,859	sf				
161	gravel base; 12" thick	476	cy	40.00	19,040		
162	asphalt; 4" thick	1,429	sy	35.00	50,015		
163	<u>Booster Pavers</u>	808	sf				
164	gravel base; 8" thick	20	cy	40.00	800		
165	concrete base; 4" thick	808	sf	12.00	9,696		
166	Booster Pavers	808	sf	25.00	20,200		
167	<u>Raised concrete speed table</u>	1,948	sf				
168	gravel base; 12" thick	72	cy	40.00	2,880		
169	concrete paving; 6" thick	1,948	sf	12.00	23,376		
170	<u>Plaza at baseball field</u>	3,793	sf				
171	gravel base; 8" thick	117	cy	40.00	4,680		
172	6" concrete paving	3,793	sf	14.00	53,102		
173	<u>Rumble strip concrete</u>	807	sf				
174	gravel base; 8" thick	20	cy	40.00	800		
175	concrete paving; 6" thick	807	sf	15.00	12,105		
176	<u>Grass pavers</u>	120	sf				
177	gravel base; 4" thick	1	cy	40.00	40		
178	grass pavers	120	sf	25.00	3,000		
179	<u>Gravel surfacing at generator</u>	700	sf				
180	gravel base; 6" thick - assumed	13	cy	40.00	520		
181	SUBTOTAL						904,122
182							
183	Amphitheater - artificial turf detail						
184	Artificial turf surfacing	3,800	sf				
185	Artificial turf surfacing - 1.5" fiber ht. w_envirofill	3,800	sf	12.00	45,600		
186	Resilient underlayment (23 mm)	3,800	sf	1.95	7,410		
187	Field Liner (impermeable) equal to durascrim	3,800	sf	2.00	7,600		
188	Turf anchor- PT wood	1,040	lf	16.00	16,640		
189	Precast concrete edger/Seat wall - L6.2 1' x 1.5' set in concrete	400	lf	150.00	60,000		
190	2" HDPE perf pipe in stone trench	420	lf	45.00	18,900		
191	SUBTOTAL						156,150
192							
193	East courtyard lower level						
194	SUBTOTAL				NR		-
195							
196	East courtyard upper level						
197	Metal planter beds	1,500	sf	200.00	300,000		
198	Metal planter bed - drainage allowance	7	loc	500.00	3,500		
199	Planting soil; 6" thick	28	cy	65.00	1,820		
200	Scarified soil; 4" thick	18	cy	25.00	450		
201	Light weight soil; 5" thick	22	cy	100.00	2,200		
202	Crushed stone; 6" thick	28	cy	40.00	1,120		
203	Geotextile	3,000	sf	1.50	4,500		
204	Access	1	ls	2,500.00	2,500		

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK							
205	Concrete paving	1,714	sf				
206	gravel base; 8" thick	71	cy	40.00	2,840		
207	4" concrete paving	1,714	sf	12.00	20,568		
208	Precast concrete pavers	7,709	sf	30.00	231,270		
209	Precast concrete pavers on grade - wet set	1,152	sf	25.00	28,800		
210	1" Mortar setting bed	4	cy	1,000.00	incl. above		
211	4" Cement concrete pavement	1,152	sf	8.00	9,216		
212	8" Gravel base	29	cy	40.00	1,160		
213	Wood stepped seating system	580	sf	125.00	72,500		
214	SUBTOTAL					682,444	
215							
216	Playgrounds						
217	Poured-in-place areas	3,700	sf				
218	3/4" crushed stone; 12" thick	137	cy	38.00	5,206		
219	dense graded crushed stone; 6" thick	69	cy	40.00	2,760		
220	Play surface; poured rubber (2 color) Quote DD phase	3,700	sf	35.00	129,500		
221	Playground structures- allowance	1	ls	100,000.00	100,000		
222	SUBTOTAL					237,466	
223							
224	Site Improvements						
225	Flag pole - quote	1	ea	17,300.00	17,300		
226	PV foundations - visitor side of existing field	10	ea	2,000.00	20,000		
227	PV foundations - west parking lot	16	ea	2,000.00	32,000		
228	Free standing bench north plaza east	8	ea	5,000.00	40,000		
229	Free standing bench south plaza	167	lf	400.00	66,800		
230	Bench- pads only	4	ea	2,000.00	8,000		
231	Trash	4	ea	4,300.00	17,200		
232	Bicycle racks	42	ea	950.00	39,900		
233	Barrier gates - double	2	ea	15,000.00	30,000		
234	Water fountain	1	ea	8,000.00	8,000		
235	Bollards - north plaza west	6	ea	900.00	5,400		
236	Bollards - north plaza west (tabled crosswalk) west	4	ea	900.00	3,600		
237	Bollards - north plaza west (tabled crosswalk) east	4	ea	900.00	3,600		
238	Bollards - south plaza	2	ea	900.00	1,800		
239	Bollards (around utility pads)	23	ea	800.00	18,400		
240	Bollards (manual retractable) Mass Ave.	1	ea	2,500.00	2,500		
241	School sign	1	ea	15,000.00	15,000		
242	School sign - foundation	1	ls	5,000.00	5,000		
243	Bike repair station - quote	1	ea	6,200.00	6,200		
244	Bicycle racks - bike repair area	8	ea	950.00	7,600		
245	Memorial bench	1	ea	4,000.00	4,000		
246	SUBTOTAL					352,300	
247							
248	Fencing & handrails						
249	8' fence - steel picket	345	lf	200.00	69,000		
250	8' gate, single (steel picket)	1	ea	2,000.00	2,000		
251	8' fence - steel picket	430	lf	200.00	86,000		
252	8' gate, single (steel picket)	3	ea	2,500.00	7,500		
253	8' gate, double (steel picket)	1	ea	3,500.00	3,500		
254	8' fence (CLF)	1,026	lf	85.00	87,210		
255	8' gate, single (CLF)	3	ea	1,200.00	3,600		
256	8' gate, double (CLF)	2	ea	1,800.00	3,600		
257	6' fence - steel picket	175	lf	150.00	26,250		
258	6' gate, double (steel picket)	1	ea	3,000.00	3,000		
259	4' fence - steel picket	46	lf	100.00	4,600		
260	4' gate, single (steel picket)	2	ea	1,800.00	3,600		
261	4' fence (CLF)	129	lf	55.00	7,095		
262	Double Swing Gate	2	ea	850.00	1,700		
263	Page clips - premium	1,155	lf	15.00	17,325		
264	Fence mow curb	1,000	lf	75.00	75,000		
265	Guardrail at loading dock	41	lf	350.00	14,350		
266	Handrails at loading dock stairs	40	lf	250.00	10,000		
267	Handrails at ramps	73	lf	250.00	18,250		
268	Handrails at Amphitheater	54	lf	250.00	13,500		
269	SUBTOTAL					457,080	
270							

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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SITEWORK

Walls							
Concrete segmental block wall- East Property Line	130	lf					
Large block wall- avg. 2' Ht.	325	sf	45.00	14,625			
Excavate and prepare wall base	29	cy	100.00	2,900			
Backfill wall - crushed stone	10	cy	65.00	650			
Concrete segmental block wall- walkway at baseball	114	lf					
Large block wall- avg. 2' Ht.	285	sf	45.00	12,825	Alt		
Excavate and prepare wall base	25	cy	100.00	2,500	Alt		
Backfill wall - crushed stone	8	cy	65.00	520	Alt		
Performance Wing - 2' avg.	62	lf					
Small block wall- avg. 2' Ht.	155	sf	40.00	6,200			
Wall cap	62	lf	50.00	3,100			
Excavate and prepare wall base	14	cy	100.00	1,400			
Backfill wall - crushed stone	5	cy	65.00	325			
Concrete segmental block wall- west parking lot	113	lf					
Large block wall- avg. 4' Ht.	509	sf	45.00	22,955	w/ EBP#2		
Excavate and prepare wall base (wider due to larger block)	25	cy	100.00	2,500	w/ EBP#2		
Backfill wall - crushed stone	17	cy	65.00	1,105	w/ EBP#2		
SUBTOTAL							29,200

Concrete CIP Walls

<i>CIP Stairs and Walls at loading dock</i>							
Stairs at loading dock	81	lf	225.00	18,225			
Cheek walls	7	cy	1,200.00	8,400			
CIP cheek wall footing at 6'-0" OC	4	loc	900.00	3,600			
Concrete wall east courtyard - 2' avg. (former SOE)	146	lf					
E&B for retaining wall	108	cy	100.00	10,800			
Formwork	876	sf	25.00	21,900			
Re-bar	4,922	lbs	1.50	7,383			
Concrete material; 4,000 psi	64	cy	145.00	9,280			
Placing concrete	64	cy	150.00	9,600			
Concrete wall east courtyard - 17' avg. (former SOE)	49	lf					
E&B for retaining wall	36	cy	100.00	3,600			
Formwork	1,029	sf	25.00	25,725			
Re-bar	1,718	lbs	1.50	2,577			
Concrete material; 4,000 psi	49	cy	145.00	7,105			
Placing concrete	49	cy	150.00	7,350			
Concrete wall amphitheater stage wall - 2' avg.	90	lf					
E&B for retaining wall	67	cy	100.00	6,700			
Formwork	540	sf	25.00	13,500			
Re-bar	4,529	lbs	1.50	6,794			
Concrete material; 4,000 psi	39	cy	145.00	5,655			
Placing concrete	39	cy	150.00	5,850			
Concrete wall rain garden - 5' avg.	70	lf					
E&B for retaining wall	52	cy	100.00	5,200			
Formwork	684	sf	25.00	17,100			
Re-bar	2,868	lbs	1.50	4,302			
Concrete material; 4,000 psi	42	cy	145.00	6,090			
Placing concrete	42	cy	150.00	6,300			
Concrete wall rain garden - 2.5' avg.	151	lf					
E&B for retaining wall	112	cy	100.00	11,200			
Formwork	982	sf	25.00	24,550			
Re-bar	5,192	lbs	1.50	7,788			
Concrete material; 4,000 psi	69	cy	145.00	10,005			
Placing concrete	69	cy	150.00	10,350			
Anti-graffiti coating	4,111	sf	6.00	24,666			
Misc. Concrete foundations for site elements	123	cy	800.00	98,400			
E+B for foundations at site elements	185	cy	55.00	10,175			
SUBTOTAL							410,170

Sports Fields

<i>Softball</i>	77,000	sf				
Turf field- dual fiber w/thatch zone (sand/rubber infill)	77,000	sf	4.85	373,450		
Resilient underlayment	77,000	sf	1.50	115,500		
Logo allowance - 1' ht.	1	ls	5,000.00	5,000		

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK							
338	Field top stone; 2" thick (stone dust)	753	tn	32.00	24,096		
339	Field base stone; 8" thick (dense grade)	3,153	tn	28.00	88,284		
340	Granular fill; 6" thick	2,353	tn	26.00	61,178		
341	Field Liner (impermeable) equal to durascrim 16 mil.	77,000	sf	0.75	57,750		
342	Field Liner 30mil. - per comments	14,000	sf	1.20	16,800		
343	Geotextile- per comments	14,000	sf	0.75	10,500		
344	Field slot drainage system and turf anchor	810	lf	180.00	145,800		
345	Turf anchor without drain	420	lf	100.00	42,000		
346	Trench drain basin	7	loc	1,500.00	10,500		
347	Turf drain basin	11	loc	1,200.00	13,200		
348	Manhole	1	loc	4,000.00	4,000		
349	Chamber system type B (262 lf)	4,100	sf				
350	Field chambers (includes e/b)	2,714	ea	45.00	122,130		
351	Double washed drainage stone (19.85 cuft/ft) chamber void removed	317	tn	55.00	17,435		
352	Chamber system type A (360 lf)	5,300	sf				
353	Field chambers (includes e/b)	1,860	ea	45.00	83,700		
354	Double washed drainage stone (16.5 cuft/ft) chamber void removed	363	tn	55.00	19,965		
355	12" HDPE	170	lf	65.00	11,050		
356	15" PVC	30	lf	75.00	2,250		
357	10" PVC	30	lf	55.00	1,650		
358	8" PVC	143	lf	40.00	5,720		
359	6" PVC	20	lf	40.00	800		
360	4" PVC	20	lf	40.00	800		
361	Tractor	1	ls	15,000.00	15,000		
362	Field maintenance equipment	1	ls	5,000.00	5,000		
363	Field safety testing suite (FIFA etc.)	1	ls	10,000.00	10,000		
364	Turf bases	1	set	2,500.00	2,500		
365	Backstop- 6" posts	1	loc	50,000.00	50,000		
366	Scoreboard - incl repairs to liner	1	loc	45,000.00	45,000		
367	Vinyl CL 8' fence - 99"	230	lf	85.00	19,550		
368	Vinyl CL 8' fence - 75" shot put - no fence guard	125	lf	85.00	10,625		
369	Vinyl CL Fencing- 51" double gate	1	loc	1,200.00	1,200		
370	Vinyl CL Fencing- 51" single gate	10	loc	850.00	8,500		
371	Vinyl CL Fencing - 51"	969	lf	55.00	53,295		
372	Fence guard	1,199	lf	6.50	7,794		
373	Page clips - premium	1,324	lf	15.00	19,860		
374	45' rolling gate	1	ea	35,000.00	35,000		
375	Sports netting 30'	160	lf	200.00	32,000		
376	Sports netting 30' -custom	40	lf	225.00	9,000		
377	Allowance for sonotubes/steel at field netting	1	ls	25,000.00	25,000		
378	Bullpen - fortified infield mix	1	loc	10,000.00	10,000		
379	Dugouts concrete pads - no roof	600	sf	20.00	12,000		
380	On deck area - assumed synthetic turf	225	sf	15.00	3,375		
381	8' Team benches - allow	4	ea	2,000.00	8,000		
382	Removable pitcher's rubber	1	loc	3,500.00	3,500		
383	Foul poles	2	ea	5,000.00	10,000		
384	Foul poles - turf access kit	1	ea	1,200.00	1,200		
385	Football goalpost east end only	1	loc	12,000.00	12,000		
386	Discus	1	ls	20,000.00	20,000		
387	Shotput - includes landing area/curb	1	ls	35,000.00	35,000		
388	Shotput cage	1	ls	20,000.00	20,000		
389	<i>Baseball</i>	97,300	sf				
390	Turf field- dual fiber w/thatch zone (sand/rubber infill)	97,300	sf	4.85	471,905		
391	Resilient underlayment	97,300	sf	1.50	145,950		
392	Logo allowance - 16' Ht.	1	ls	15,000.00	15,000		
393	Field top stone; 2" thick (stone dust)	951	tn	32.00	30,432		
394	Field base stone; 8" thick (dense grade)	3,984	tn	28.00	111,552		
395	Granular fill; 6" thick	2,973	tn	26.00	77,298		
396	Field Liner (impermeable) equal to durascrim 16 mil.	97,300	sf	0.75	72,975		
397	Field Liner 30mil. - per comments	20,000	sf	1.20	24,000		
398	Geotextile- per comments	20,000	sf	0.75	15,000		
399	Field slot drainage system and turf anchor	950	lf	180.00	171,000		
400	Turf anchor without drain	312	lf	100.00	31,200		
401	Trench drain basin	11	loc	1,500.00	16,500		
402	Turf drain basin	14	loc	1,200.00	16,800		

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
SITEWORK								
403	Manhole	1	loc	4,000.00	4,000			
404	MWRA access area	1	ea	10,000.00	10,000			
405	Chamber system type B (712 lf)	10,200	sf					
406	Field chambers (includes e/b)	6,975	ea	45.00	313,875			
407	Double washed drainage stone (19.85 cuft/ft) chamber void removed	863	tn	55.00	47,465			
408	12" HDPE	230	lf	65.00	14,950			
409	15" PVC	20	lf	75.00	1,500			
410	10" PVC	80	lf	55.00	4,400			
411	8" PVC	143	lf	40.00	5,720			
412	Turf bases	1	set	2,500.00	2,500			
413	Soccer goals (movable)	1	pr	13,800.00	13,800			
414	Soccer corner flags	1	set	1,500.00	1,500			
415	Portable pitcher's mound	1	loc	30,000.00	30,000			
416	Backstop	1	loc	50,000.00	50,000			
417	Backstop 4' padding	152	lf	125.00	19,000			
418	Dugouts concrete pads - no roof	600	sf	20.00	12,000			
419	8' Team benches - allow	4	ea	2,000.00	8,000			
420	Bullpen - fortified infield mix	1	loc	10,000.00	10,000			
421	Vinyl CL Fencing 51"	360	lf	55.00	19,800			
422	Vinyl CL Fencing- 51" double gate	1	loc	1,200.00	1,200			
423	Vinyl CL Fencing- 51" single gate	4	loc	850.00	3,400			
424	Vinyl CL 8' fence- 99"	530	lf	85.00	45,050			
425	Vinyl CL Fencing 12'	400	lf	125.00	50,000			
426	Vinyl CL Fencing 12' corner posts	4	loc	800.00	3,200			
427	Page clips - premium	1,290	lf	15.00	19,350			
428	Fence guard	1,290	lf	6.50	8,385			
429	Sports netting 30'	320	lf	200.00	64,000			
430	Sports netting 30' -custom	150	lf	225.00	33,750			
431	Allowance for sonotubes/steel at field netting	1	ls	25,000.00	25,000			
432	Foul poles	2	ea	5,000.00	10,000			
433	Foul poles - turf access kit	2	ea	1,200.00	2,400			
434	Scoreboard	1	loc	65,000.00	65,000			
435	Allowance for sonotubes/steel at field fencing (18" Dia.)	1	ls	15,000.00	15,000			
436	SUBTOTAL						3,831,814	
437	Landscaping							
438	Soil amend existing stockpiled soil - PH2-4 (1,400cy) 4" thick	3,110	cy	18.00	55,980			
439	Soil amend existing stockpiled soil - PH#1	590	cy	18.00	10,620			
440	Allowance for import of topsoil	800	cy	55.00	44,000			
441	Allowance for planting soil (swell import 25%)	1,300	cy	65.00	84,500			
442	Allowance for mulch	1	ls	25,000.00	25,000			
443	Lawn	45,400	sf	0.35	15,890			
444	Lawn - slope	4,200	sf	0.35	1,470			
445	Athletic mix (2,000cy) 8" thick	80,000	sf	0.55	44,000			
446	Allowance for under drains not shown	1	ls	60,000.00	60,000			
447	Woodland mix	3,200	sf	0.50	1,600			
448	Meadow mix	39,000	sf	0.50	19,500			
449	Wetland mix	6,600	sf	0.65	4,290			
450	Slope stabilization fabric	11,600	sf	2.00	23,200			
451	Memorial in planting	1	ls	4,000.00	4,000			
452	Lawn maintenance - quote	1	ls	31,000.00	NIC			
453	Plant maintenance - quote	1	ls	18,900.00	NIC			
454	Stone Drip Edge	2,200	sf	18.00	39,600			
455	Trees							
456	Arborvitae - 7-8' ht.	35	ea	800.00	28,000			
457	White pines - 7-8' ht.	5	ea	675.00	3,375			
458	Serviceberry - 7-8' ht.	40	ea	850.00	34,000			
459	Multi-stem red maples - 8-10' ht.	28	ea	1,500.00	42,000			
460	Bald cypress - 8-10' ht.	4	ea	1,500.00	6,000			
461	Multi-stem birches - 10-12' ht.	4	ea	1,200.00	4,800			
462	Dogwood trees- 4-5' ht.	3	ea	675.00	2,025			
463	Witch hazels - 5-6' ht.	33	ea	1,200.00	39,600			
464	Signature tree planting - 8" single stem	4	ea	5,000.00	20,000			
465	Shade tree - 3"-3.5"	23	ea	1,800.00	41,400			
466	Shade tree - 2"-2.5"	69	ea	1,100.00	75,900			

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK							
468	Tree guy wires with deadmen - signature trees	4	ea	500.00	2,000		
469	<u>Shrubs</u>						
470	#3 size plants	303	ea	45.00	13,635		
471	#5 size plants	214	ea	58.50	12,519		
472	<u>Perennials</u>						
473	#1 size plants	5,806	ea	18.00	104,508		
474	<u>Raingarden plugs</u>						
475	Plugs	19,216	ea	3.50	67,256		
476	<u>Raingarden plugs</u>						
477	Groundcover	1,500	sf	6.50	9,750		
478	Mulch; 3" thick	18	cy	50.00	900		
479	<u>Irrigation systems</u>						
480	Irrigation system	103,755	sf	1.25	129,694		
481	Tree rings	110	loc	1,200.00	132,000		
482	Sleeves	580	lf	10.00	5,800		
483	Courtyard planters	1	ls	25,000.00	25,000		
484	SUBTOTAL						1,233,812
485							
486	G30 CIVIL MECHANICAL UTILITIES						
487	ENABLING UTILITIES						
488							
489	Reroute existing 8" water service in conflict with proposed building footprint	566	lf	160.00	w/ EBP#2		
490	Hydrant	1	loc	4,000.00	w/ EBP#2		
491	Connect to existing	1	loc	10,000.00	w/ EBP#2		
492							
493	SOE at relocated culvert	660	lf				
494	Excavation; for utility work				See Below		
495	SP and lagging	35,000	sf	70.00	w/ EBP#2		
496	Whalers - included above						
497	Premium for rock excavation	400	cy	300.00	w/ EBP#2		
498	Backfill to elev +55	815	cy	35.00	w/ EBP#2		
499							
500	Relocate existing 48" drain line in conflict with proposed building footprint; Cement Lined ductile Iron	670	lf	450.00	w/ EBP#2		
501	Excavate and backfill	7,356	cy	80.00	w/ EBP#2		
502	Bedding	298	cy	60.00	w/ EBP#2		
503	Drain manholes	6	ea	5,000.00	w/ EBP#2		
504	Drain manholes; premium for deep manholes	3	ea	15,000.00	w/ EBP#2		
505	Remove existing utilities/connections	1	ls	50,000.00	w/ EBP#2		
506	SUBTOTAL						-
507							
508	<i>Excavation + Backfill Quantities included below</i>						
509	<i>Trench excavation</i>	3,672	cy				
510	<i>Bedding</i>	2,165	cy				
511	<i>Backfill with existing material</i>	1,507	cy				
512							
513	Water supply: Pricing includes E&B and bedding						
514	8" DI piping	170	lf	120.00	20,400		
515	8" DI piping- EBP#2	270	lf	120.00	w/ EBP#2		
516	6" DI piping	760	lf	90.00	68,400		
517	6" fire service DI piping	312	lf	90.00	28,080		
518	6" fire service DI piping- EBP#2	44	lf	90.00	w/ EBP#2		
519	8" fire service DI piping- EBP#2	120	lf	120.00	w/ EBP#2		
520	3" copper piping	45	lf	65.00	2,925		
521	4" DI piping- EBP#2	40	lf	75.00	w/ EBP#2		
522	Thrust Blocks	10	ea	500.00	5,000		
523	Connect to existing	2	loc	15,000.00	30,000		
524	Connect to previous phase	3	loc	5,000.00	15,000		
525	Temp Connect to Exist	1	loc	5,000.00	5,000		
526	Connect to existing- EBP#2	4	loc	15,000.00	w/ EBP#2		
527	Pressure testing & chlorinate	1,287	lf	5.00	6,435		
528	FD connection	1	ea	2,000.00	2,000		
529	FD connection- EBP#2	1	ea	2,000.00	w/ EBP#2		
530	8" Gate valves	4	ea	1,200.00	4,800		
531	8" Gate valves- EBP#2	3	ea	1,200.00	w/ EBP#2		
532	6" Gate valves	7	ea	750.00	5,250		

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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SITEWORK

533	6" Gate valves- EBP#2	2	ea	750.00	w/ EBP#2		
534	4" Gate valves- EBP#2	1	ea	750.00	w/ EBP#2		
535	Fire hydrant - front of school hydrant	3	ea	6,500.00	19,500		
536	SUBTOTAL					212,790	

Sanitary; Pricing includes E&B and bedding

537	Temporary by-pass sanitary work; Phase 2-4	1	ls	50,000.00	50,000		
538	Manholes	9	ea	4,000.00	36,000		
539	Manholes - doghouse	1	ea	6,000.00	6,000		
540	Manholes- EBP#2	4	ea	4,000.00	w/ EBP#2		
541	Grease trap - E/B only (by civil)	1	ea	30,000.00	30,000		
542	6" PVC	1,000	lf	65.00	65,000		
543	6" CI	65	lf	95.00	6,175		
544	6" PVC- EBP#2	200	lf	65.00	w/ EBP#2		
545	4" PVC- EBP#2	40	lf	45.00	w/ EBP#2		
546	4" PVC	10	lf	45.00	450		
547	Pressure testing & video inspection	1,075	lf	13.00	13,975		
548	Connect to existing sewer service- EBP#2	1	ea	10,000.00	w/ EBP#2		
549	Connect to existing sewer culvert	2	ea	20,000.00	40,000		
550	SUBTOTAL					247,600	

Storm water; Pricing includes E&B and bedding

551	Manhole	10	ea	4,000.00	40,000		
552	Manhole - 6' Dia.	1	loc	6,000.00	6,000		
553	Manhole- EBP#2	8	loc	4,000.00	w/ EBP#2		
554	Doghouse Manhole- EBP#2	1	loc	6,000.00	w/ EBP#2		
555	AD	11	ea	2,500.00	27,500		
556	OCS	2	loc	8,000.00	16,000		
557	WQS	1	loc	12,000.00	12,000		
558	WQI	5	ea	8,000.00	40,000		
559	Catch basins	5	loc	3,800.00	19,000		
560	Cleanout	3	ea	850.00	2,550		
561	Catch basins- EBP#2	2	loc	3,800.00	w/ EBP#2		
562	Convert CB to DMH	2	loc	1,500.00	3,000		
563	Area drains- EBP#2	5	loc	2,500.00	w/ EBP#2		
564	FES	5	ea	1,500.00	7,500		
565	30" HDPE	391	lf	110.00	43,010		
566	24" HDPE	174	lf	80.00	13,920		
567	18" HDPE	5	lf	75.00	375		
568	15" HDPE	25	lf	73.00	1,825		
569	12" HDPE	1,233	lf	70.00	86,310		
570	12" PVC	42	lf	80.00	3,360		
571	12" HDPE- EBP#2	760	lf	70.00	w/ EBP#2		
572	8" HDPE- EBP#2	133	lf	35.00	w/ EBP#2		
573	8" HDPE	233	lf	35.00	8,155		
574	Temp 8" HDPE	67	lf	35.00	2,345		
575	Temp Swale	25	lf	20.00	500		
576	8" PVC	50	lf	40.00	2,000		
577	6" HDPE- EBP#2	230	lf	30.00	w/ EBP#2		
578	6" PVC	672	lf	30.00	20,160		
579	4" PVC	100	lf	30.00	3,000		
580	Clean proposed drainage lines & video inspection	3,017	lf	7.00	21,119		
581	28 Unit UDS	1,200	sf	40.00	48,000		
582	Site trench drain at stage in amphitheater - L6.2	15	lf	180.00	2,700		
583	Trench drain - loading dock	40	lf	140.00	5,600		
584	Connection to existing	6	loc	5,000.00	30,000		
585	Raingarden -shaping	1,299	sf	40.00	51,960		
586	Roof Drain	153	lf	30.00	4,590		
587	Wall Drain	266	lf	30.00	7,980		
588	RipRap Spill Ways	311	sf	25.00	7,775		
589	Patching and rework structures	1	ls	50,000.00	50,000		
590	Temporary earth shoring	1	ls	150,000.00	w/ EBP#2		
591	Perforated wall pipe - not shown allowance	1	ls	80,000.00	Incl. above		
592	Gas service	140	lf	25.00	w/ EBP#2		
593	E&B trench for new gas pipe- EBP#2					588,234	
594	SUBTOTAL						

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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SITEWORK

600	G40 ELECTRICAL UTILITIES						
601	<u>Civil</u>						
603	Concrete:						
604	Primary DB	50	lf	18.00	900		
605	Secondary DB	100	lf	25.00	2,500		
606	Generator DB	350	lf	20.00	7,000		
607	Telecom DB	50	lf	28.00	1,400		
608	Sports lighting controller DB	400	lf	25.00	10,000		
609	Primary switch, Transformer & Generator pad	4	ea	2,500.00	10,000		
610	Switchboard pad	3	ea	2,500.00	7,500		
611	Site lighting Pole base	65	ea	750.00	48,750		
612	Site lighting Bollard base	19	ea	350.00	6,650		
613	Sports light Pole base, extra deep, environment sensitive	11	ea	15,000.00	165,000		
614	EV station base	10	ea	350.00	3,500		
615	Lighting, security & EV, etc.					Earlier bid package	ETR
616	Excavation and backfill:						
617	Primary DB	50	lf	25.00	1,250		
618	Secondary DB	100	lf	30.00	3,000		
619	Generator DB	350	lf	25.00	8,750		
620	Telecom DB	50	lf	25.00	1,250		
621	Sports lighting controller DB, allow (assumes at toilet building)	400	lf	25.00	10,000		
622	Lighting, security & EV, irrigation circuitry					Earlier bid package	ETR
623	<u>Power</u>						
624	Primary duct bank 4-5" conduits - BP2	450	lf			ETR	
625	Manhole, power BP2	4	ea			ETR	
626	Connection to stubbed BP2 primary	1	ls	1,000.00	1,000		
627	Primary duct bank 4-5" conduits - extension from BP2 stub to Utility Co Switch	50	lf	80.00	4,000		
628	Primary duct bank 2-5" conduits Utility Co Switch to Transformers	70	lf	40.00	2,800		
629	Primary switch	1	ea			By Utility	
630	Pad mount transformer	2	ea			By Utility	
631	Primary switch pad	1	ea			See Civil	
632	Pad mount transformer pad	2	ea			See Civil	
633	Handhole (EV charging stations) BP2, allow	2	ea	1,500.00	3,000		
634	Secondary duct bank 3000A (Total of 2 runs)	100	lf	660.00	66,000		
635	Generator ductbank					-	
636	3000A feed	350	lf	620.00	217,000		
637	2500A feed	350	lf	500.00	175,000		
638	800A feed	350	lf	180.00	63,000		
639	400A feed	350	lf	90.00	31,500		
640	225A feed to FP	380	lf	50.00	19,000		
641	Control wiring	350	lf	10.00	3,500		
642	Generator pad	1	ea			See Civil	
643	<u>Communication</u>						
644	Manhole, BP2	3	ea			ETR	
645	Communications duct bank 4-4" conduits BP2	230	lf			ETR	
646	Connection to existing stub	1	ea	1,500.00	1,500		
647	Communications duct bank 4-4" conduits BP2 stub to building entrance	50	lf	80.00	4,000		
648	<i>See Electrical for interior portion of communication conduits.</i>						
649	<u>Sports lighting</u>						
650	Sports lighting controller	2	ea	10,000.00	20,000		
651	Sports lighting controller	1	ea			ETR	
652	Lighting controller 225A AL feeder 2 runs	800	ea	40.00	32,000		
653	SP1 (Sports field fixture)	11	ea	65,000.00	Alternate		
654	Sports light Pole base	11	ea			See Civil	
655	<u>Athletic Scoreboard</u>						
656	Athletic scoreboard	2	loc			See Above	
657	Power to scoreboard from Toilet Building (allow)	1,100	lf	12.00	13,200		
658	<u>Amphitheater</u>						
659	Stage dimming system and lighting					NIC Deleted scope	
660	Installation, rough-in & 120V power to dimming equipment					NIC Deleted scope	
661	Audio visual equipment, installation & LV cabling, allow					NIC Deleted scope	
662	Audio visual rough-in and power					NIC Deleted scope	

90% Construction Document Estimate

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
SITEWORK								
663	Misc. Electrical provision	1	ls	32,000.00	32,000			
664	<u>Site Security (allow)</u>							
665	Site Security (allow)	1	ls	100,000.00	100,000			
666	<u>Site Demolition</u>							
667	Demolition and make safe	1	ls	25,000.00	25,000			
668	<u>Site lighting</u>							
669	PTO1-2 (28' pole single head)	9	ea	3,721.00	33,489			
670	PTO1-23 (28' pole double head)	3	ea	5,525.00	16,575			
671	PTO2-2 (14' pole single head)	42	ea	2,805.00	117,810			
672	PTO2-23 (14' pole single head)	4	ea	3,721.00	14,884			
673	PTO2-3 (14' pole single head)	2	ea	2,805.00	5,610			
674	PTO2-4 (14' pole single head)	4	ea	2,805.00	11,220			
675	PTO3 (18' pole 4 head)	19	ea	4,175.00	79,325			
676	RG01 (flagpole spot)	2	ea	1,599.00	3,198			
677	RG14	14	ea	2,600.00	36,400			
678	SW09	18	ea	2,200.00	39,600			
679	Handhole, new	67	ea	850.00	56,950			
680	Handhole, installed in earlier bid package	6	ea		ETR			
681	Concrete Base	83	ea		See Civil			
682	Base grounding	83	ea	150.00	12,450			
683	Conduit for circuitry installed in earlier bid package	1,100	lf		ETR			
684	Circuitry installed in existing conduit	3,440	lf	7.00	24,080			
685	Conduit & circuitry	6,150	lf	10.00	61,500			
686	EV charging station	10	ea	9,000.00	90,000			
687	Station base	10	ea		See Civil			
688	Conduit & circuitry	700	lf	9.00	6,300			
689	<u>Traffic Signals</u>							
690	Traffic light at Mill Street				See Add Alt			
691	BLEACHER MOUNTED PVS							
693	Remove bleacher seats; foundations to remain				NIC			
694	Install new PV panels				By Others			
695	Electrical conduit for PV panels 2-2", empty, run along with sportsfield lighting	600	lf		See Add Alt			
696	Handhole	5	ea		See Add Alt			
697	Footings for PV panels; modify existing				NIC			
698	Structural System to mount PV panels; attached to existing bleachers footings				By Others			
699	PARKING LOT PVS							
701	Electrical conduit for PV panels				ETR			
702	Circuitry				By Others			
703	Install new PV panels				By Others			
704	Structural System to mount PV panels				By Others			
705	Footings for PV panels				By Others			
706	SUBTOTAL				\$1,710,341			
707	TOTAL - SITE DEVELOPMENT							
708								\$15,978,230

Arlington High School

Alternate List DRAFT

Consigli 90% CD Estimate 8/17/2020

Temp Designation		Phase of Work	Items	Filed Sub Bid Y/N	90% CD Costs TBD	w mark up	Notes
A	Design	Phase 1	Exterior CMU patterning/varied sizes at Amphitheater courtyard	Yes - masonry	6,500	7,173	
B.1 or	Design	Phase 2	Exterior CMU - horizontal banding at Preschool	Yes - masonry	70,483	77,781	
B.2 or	Design	Phase 2	Exterior CMU - wave pattern at Preschool	Yes - masonry	82,696	91,258	
B.3	Design	Phase 2	Exterior CMU - change all to 4x16 at Preschool	Yes - masonry	124,812	137,735	
C.1	Sustainability	Phase 2	Triple pane glazing at North CW @spine	Yes - CW	30,002	33,108	
C.2	Sustainability	Phase 2	Triple pane glazing at East CW @spine	Yes - CW	98,220	108,390	
C.3	Sustainability	Phase 1	Triple pane glazing at South CW @spine	Yes - CW	64,360	71,024	
D.1	Design	Phase 1	Change second floor central spine flooring from polished-stained concrete to terrazzo	Yes - epoxy terrazzo	262,660	289,855	Currently an Alternate
D.2	Design	Phase 2	Change first floor central spine flooring from polished-stained concrete to terrazzo	Yes - epoxy terrazzo	115,570	127,536	
E	Sustainability	Phase 4	Conduit for PV to be installed at north bleachers	Yes - electrical	59,500	65,661	Currently an Alternate
F	Design	Phases 1, 2, 3	Increase corridor wall tile height from 5'-0" to 7'-0"	Yes - tile	290,640	320,732	
G	Site	Phase 4	Sports field lighting poles, lights, & wiring	Yes - electrical	1,110,000	1,224,928	Currently an Alternate
H	Site	Phase 4	Traffic light at Mill Street	Yes - electrical	350,000	386,238	Currently an Alternate
					0		
					0		
a	Design	Phase 1	Add wood paneling at Main Lobby at Auditorium & Black Box	No	104,910	115,772	
b	Design	Phase 2	Change fixed glass wall to include a portion of glass folding wall at Central Spine to Courtyard	No	24,453	26,985	Revised Alternate
c	Sustainability	Phase 1, 3	Additional insulation at exterior walls of Athletics & Perf Arts wings	No	250,110	276,006	
d	Site	Phase 4	Baseball & softball batting cages	No	94,300	104,064	Currently an Alternate
e	Site	Phase 4	MM Bikeway connector ramp	No (move lights & handrail to future Change Order)	602,324	664,688	Currently an Alternate
f	Site	Phase 4	Baseball & softball warm up bullpens	No	27,990	30,888	Currently an Alternate; 2 additional bull pens
g	Site	Phase 4	Sports field Maroon Monster	No	56,000	61,798	Currently an Alternate
h	Site	Phase 1	Deduct for irrigation at south lawn	No	-73,800	-81,441	Currently in the 90% estimate
i	Site	Phase 4	Deduct irrigation at grass areas around sports fields	No	-144,000	-158,910	Currently in the 90% estimate
x	Sustainability	Phase 1 now	PV installed over RTUs at Perf Arts roof only	Add via Change Order to structural steel	83,200	91,814	Formerly an Alternate

ITEM	ADD LATER	ADD ALT	Status	No Objection	Rejected	Pending
LOGISTICS/SEQUENCING/PHASING						
combine phases 3 &4, shorten overall schedule, reduce GCs, reduce escalation, reduce phasing; school w/o Gym & PE lockers for 1 school year			Rejected		(620,000)	
SITE						
replace artificial turf w natural (add in irrigation)	Y	ALT	Rejected		(1,597,462)	
provide conduit only to sports lighting, eliminate lights, poles, footings	Y	ALT	Rejected		(240,000)	
eliminate amphitheater (incl aisles, 6" granite curb edging, ramp & railing, reinforced lawn, and platform; grass only)			Rejected		(158,914)	
eliminate all irrigation			Rejected		(171,750)	
EXTERIOR						
change brick to CMU -version 1B			Rejected		(170,658)	
INTERIOR						
eliminate catwalk at Blackbox			Rejected		(94,200)	
reduce Auditorium AV scope by an additional 5%			Rejected		(13,500)	
reduce overall building square footage thru the spine (reduce program spaces sizes, incl cafeteria, library, Dlab (reduce seats by ~25), Smart Lab, & Language Lab)			Rejected		(407,193)	
reduce size of Black Box by 500 sf (new size: 2,500 sf)			Rejected		(19,047)	
reduce size of Black Box by 1000 sf (new size: 2,000 sf)			Rejected		0	
tile on wet walls only in shared/student toilet rooms			Rejected		(238,477)	
SUSTAINABILITY						
eliminate EV-ready at west parking lot	grant		Rejected		(8,143)	
eliminate PV at west parking lot			Rejected		(74,874)	
MECHANICAL						
eliminate gas service to science labs			Rejected		(182,809)	

Arlington High School Building Committee Meeting
Tuesday, August 4, 2020
Conducted via Remote Participation
6:00 pm

Present: Jeff Thielman, School Committee Representative, Chair
Kathleen Bodie, Superintendent, Co-vice chair
Adam Chapdelaine, Town Manager, Co-vice chair
Kirsti Allison-Ampe, School Committee Representative
Francis Callahan, Community Member Representative
John Cole, Chair, Permanent Town Building Committee
Tobey Jackson, Community Member Representative
Matthew Janger, AHS Principal
Ryan Katofsky, Community Member Representative
Brett Lambert, PTBC Representative
Kate Loosian, Community Member Representative
Michael Mason APS Chief Financial Officer
William McCarthy, AHS Assistant Principal (*absent*)
Judson Pierce, Community Member
Sandy Pooler, Deputy Town Manager
Paul Raia, Disabilities Commission Representative (*absent*)
Brian Rehrig, Capital Planning Committee Member
Amy Speare, Community Member Representative
Shannon Knuth, Teacher Representative
Kent Werst, Teacher Representative

Also present: Jim Burrows, Victoria Clifford, Sy Nguyen, Skanska Inc.
Lori Cowles, Melissa Greene, Arthur Duffy, Stephanie MacNeil,
HMFH Architects, Inc.
John LaMarre, Todd McCabe, Consigli Construction

Call to order: 6:00 pm

Chair of the Committee, Jeff Thielman, opened the meeting conducted by remote participation as outlined in Governor Baker's order suspending certain provisions of the open meeting law on March 12, 2020, and explained the procedure on taking votes.

Discussion with Disabilities Commission

Paul Raia and Cynthia DeAngelis of the Disability Commission addressed the Committee relative to the building project. They would like to work with the Committee to ensure that the building is as inclusive as possible beyond ADA regulations so that incoming students with disabilities can benefit, feel welcomed and motivated.

Members of the Disability Commission will meet with the AHSBC Interiors Subcommittee to focus on accessibility points in the building and how those points will be addressed. HMFH will put together a presentation and then have a dialogue with the commission

Fusco Air Conditioning Review – Vote for Finance Sub-committee Final Approval

Jim Burrows reported that windows in the Fusco House need to be closed during construction due to noise and air quality. Air conditioners have been ordered along with electrical equipment that is needed to update the existing electrical capacity for Fusco House.

HMFH stated the capacity of the unit is to take the bite out of the temperature, Fusco has proper ventilation, and the air conditioner will control room temperature.

The air conditioner units will be turned over to the Town for whatever purpose they need them when Fusco House is ready for demolition.

On a motion by Kathleen Bodie seconded by Adam Chapdelaine it was:

Voted that the AHSBC gives authorization to the Finance Subcommittee to approve the final pricing for Fusco Air Conditioning (CR017) \$109,759. Unanimous roll call.

Builder Risk Update- Vote to fund from Owner's Contingency

Jim Burrows reported that Skanska had procured the builders risk insurance on the construction site and the insurance on the existing building. The current policy with Maya ends on the existing building once construction begins necessitating that Skanska go out to bid. Four proposals were received with Liberty Mutual coming in with the lowest price for the existing and builders risk insurance for a total of \$631,000.

Jim Burrows explained that Skanska carried \$369,000.00 in the owners soft cost contingency budget and an additional \$100,000 for a total of \$469,000 and is requesting approval of \$162,453 from the Owners Contingency to fund the premium.

On a motion by Adam Chapdelaine seconded by Kathleen Bodie it was

Voted that the AHSBC gives authorization to the Finance Subcommittee to approve funding the Builders Risk Premium in the amount of \$631,920 with \$162,453 from Owner's Contingency.

Roll call: 14 yes votes 2 no votes. Motion carries.

Jeff Thielman -yes

Kathleen Bodie -yes

Adam Chapdelaine-yes

Kirsi Allison-Ampe-yes

Francis Callahan - no

John Cole-yes

Tobey Jackson-yes

Matthew Janger -yes

Ryan Katofsky-yes

Brett Lambert - yes

Kate Loosian -yes

Michael Mason -yes

Judson Pierce no

Sandy Pooler -yes

Bran Rehrig -yes

Amy Speare -yes

Skanska Update

Review of Alternates Overview

Jim Burrows explained to the committee the process in which alternates could be chosen:

- ◆ Trade bid alternates must be ranked in order per Mass General Laws.
- ◆ Non trade alternatives- site work can be taken in any order if there is room in the budget.
- ◆ No votes are required tonight, wants the committee to be familiar with the alternate items.

HMFH Alternates Update

Lori Cowles reviewed the draft of alternates explaining the rationale behind each item.

The committee discussed at length:

- ◆ The list of alternates – sub filed bids and non-bid items
- ◆ How to prioritize them
- ◆ Timeline of when decisions are required. .

HMFH explained that we will determine what the budget is and then prioritize what we want as alternates at the mid-August meeting.

The 90% construction documents submission to MSBA must include our list of alternates in the order that the committee votes.

McPhail Site Updates

Bill Burns (LSP) of McPhail Associates reported that

- ◆ The laundry mat contamination concerns that were brought up by community members and confirmed that a laundry mat was never on site, it was across the street, and if there was any contamination from the laundry mat it would have had to travel from groundwater.
- ◆ Prior to construction we did a robust soil testing program to plan for soil removal. Soils on the front green are moderately clean soils.
- ◆ Currently, have two dust monitors systems onsite that take readings all day long. The dust data is accessible by a software that McPhail has access to and includes in their reports.
- ◆ There hasn't been a concerning amount of dust due to construction to date. Dust levels are currently low on-site.
- ◆ McPhail is on-site daily for geotechnical testing and for dust control and the contractor is also performing street sweeping and cleaning all tires of trucks before leaving site.
- ◆ Consigli went over in more detail the dust mitigation measures they are implementing onsite.
- ◆ Amy Speare will add information on contamination and dust control on the AHS FAQ.

Consigli Update

Todd McCabe and John LaMarre reported on the following:

Parmenter Monthly Update

- ◆ Eversource new service power the planned last week in June and revised to last week July did not occur. Need for State Inspection of elevator & MEP.
- ◆ Elevator construction is completed and performed on a temporary generator.
- ◆ Elevator shaft on the existing roof, the cladding panels and metal roofing were completed. Staging removed.
- ◆ Site work (asphalt, sidewalks and topsoil) has been completed.
- ◆ Town IT dept. has mobilized and installing.

Summary

- ◆ Mechanical equipment new pumps, water heater, and HVAC systems are completed. Await permanent power.
- ◆ Finishes are nearing completion; elevator surrounds and painting. Flooring and ceilings are completed.
- ◆ Construction is on schedule (Other than Eversource), protocols for furniture installation & teacher return into the building when scheduled without an elevator are being worked through with Inspectional Services Dept.

- ◆ **AHS Monthly Update**
- ◆ Executive Overview Site work (EBP #2) continues and is scheduled for the public walkway entry to be completed for the start of the school year. 09/04/20.
- ◆ EPB #3 (alt. office & new classrooms) finishes are being installed. Electrical (lighting & fire alarm) are to on line mid to late Aug. C of O on 08/29
- ◆ EPB #4 PH-1 Structural Steel & Concrete) were awarded. Submittals and material procurement is underway.
- ◆ 90% Construction Documents issued to estimators on 07/22/20 for estimate reconciliation in mid-August.
- ◆ COVID-19 protocols continue to be in place and practiced

Summary

- ◆ Enabling of the Phase 1 site continued. New Town storm line 36"/48" completed. Existing 36" off line. Existing water & sewer lines were rerouted
- ◆ Existing DPW water lines in Mass Ave. valve required replacement and was performed on off hours.
- ◆ Electric and communications "reroute" duct bank completed. Eversource has not committed to a date for pulling "rerouted" wire.
- ◆ Gas line rerouting piping mounted to existing building is completed. New gas meter scheduled with National Grid.
- ◆ Relocated fire protection services were completed.
- ◆ Drone flight – no hawks nest found in the clock tower
- ◆ Planning for the return of staff, teachers and student continues

Subcommittee Reports

- ◆ Communications – none
- ◆ Finance – No updates. Have been reviewing and approving invoices and change orders within our limits. Next meetings is on August 6th
- ◆ Interiors – to meet within the next two weeks.
- ◆ Landscape & Exteriors – met last month, Lori to present updates to brick patterning on the exterior, amphitheater design and pre-school exterior design.
- ◆ Memorials - none
- ◆ Security - none
- ◆ SMEPFP – Waiting on energy model results. New LEED score card shared with the committee shows that we are at 66 points which is a gold ranking. Working with Arlington Resident MIT Professor to reduce impact of concrete. Hired IDS for building automation consultant services.
- ◆ Temp Use-Phasing – meeting on August 6th

Approval of Minutes

On a motion by Kathleen Bodie seconded by Ryan Katofsky it was:

Voted to approve the meeting minutes of July 7, 2020, Roll Call: Unanimous

Meeting Schedule

Proposed August meetings

Added meetings for potential value engineering:

August 18, 19, 20th.

Meeting to approve MSBA 90% CD submission: August 25th

New Business

None

On a motion by Kathleen Bodie seconded by Kate Loosian it was:

Voted to adjourn at 9:00 p.m.

Roll Call: Unanimous

Submitted by:

Karen Tassone

Recording Secretary

AHS Building Committee

Ktassone@arlington.k12.ma.us